This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at http://books.google.com/

VIDENER LIBRARY
HX HS8Q D

Digitized by Google

Sci 635.9.5

Harvard College Library

THE GIFT OF

SAMUEL ABBOTT GREEN, M.D.,

OF BOSTON.

(Class of 1851.)

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Sci 1635,9,5
0 1876-79

TRANSACTIONS

OF THE

Essex Agricultural Society,

IN MASSACHUSETTS,

For the Year 1876,

WITH THE

FIFTY-FOURTH

ANNUAL ADDRESS,

BY CYRUS M. TRACY.

Published by Order of the Society.

SALEM, MASS.:
PRESS OF THE ESSEX COUNTY MERCURY.
1876.

Digitized by Google

Digitized by Google

TRANSACTIONS

OF THE

Boundary Mass.

Essex Agricultural Society,

IN MASSACHUSETTS,

For the Year 1876,

WITH THE

FIFTY-FOURTH

ANNUAL ADDRESS,

BY CYRUS M. TRACY.

Published by Order of the Society.

SALEM:
PRESS OF THE ESSEX COUNTY MERCURY.
1876.

Digitized by Google

Sci 1635.9.5

2223.29/8

1877, Feb. 19.
Gift of
Sam'l A. Green, M.D.
of Boston.
(H.U. 1851.)

SEP 10 1915

Digitized by Google

ADDRESS.

I have, to-day, a double satisfaction. While I will not weakly dissemble the honest pleasure that one may feel at being selected for this service, I make that small beside the honor of addressing an association like this. And as the first thought of the first man has been supposed to have been, and as the first thought of any one awaking to consciousness naturally must be, embodied in the question "Where am I?" so this same inquiry rises now in my mind, to admonish me who are those in whose presence I am speaking.

You know, gentlemen, that this reflection has no reference to blood, birth, or fortune. There is a vision of greater things before me. I see in those who hear me, the best accredited representatives of the American civilization of to-day. I speak carefully. I might be told that an assembly of learned men, a body of scientists, a gathering of mercantile boards, or some religious council or congress of legislation, could better answer my terms; but I think otherwise. And if I proceed to develop, somewhat, the character I have ascribed to you, I hope it may be apparent that I rather point you to your duties and privileges, than indulge in any word of adulation.

You represent a territory of some four hundred and seventy square miles, supporting a population of two hundred thousand; a territory most remarkable every way, whether in the present or past. It is busy with almost every modern indus-

Digitized by Google

try, from the heavy workings of cotton in Lawrence, and granite in Rockport, of shoes in Lynn, and fishery in Gloucester, to the lighter craft of combs in West Newbury, shoe-threads in Andover, and cigars in Saugus. You stand for twenty-seven towns, and six incorporated cities of perhaps twenty thousand souls each, whose school-houses are like palaces, and whose churches stand thicker than the old castles that look down on "the wide and winding Rhine." You are gathered from all political parties, and you stand for every form of religious thought that calls itself Christian, and possibly some who do not. You speak the English language more purely than any other people, and you read the authors of every civilized tongue under the whole heaven. Not only so, but yours is a community marked of history. You have the first landing-place, almost, of pilgrim feet, and the first seat where Legislation sat down in the name of this nation of the West; and the first-built church of God's worship no doubt stands to-day within your borders. It was on your soil that the first defiance was done to the flag of England, it was here, too, that the first open collision with that power occurred, and it was this soil and this community that earliest drove out the soldiers of the insane king, and gave timely notice to all the world that here was *one* spot already in possession of Liberty. Nor less in Art and Science. The cinders of the oldest iron-foundry in America lie to-day on the river-bank, quiet witnesses of their own antiquity; the water still brightly flows in the oldest canal, hardly three miles away, and the first weaving of American linen and wool is said to have been done in the same region. Why should I seek to unroll the long list of names of productive thought, to recite to you the experimentation of Jacob Per-

Digitized by Google

kins, the navigation of Nathaniel Bowditch, the skillful handicraft of Joseph Jenks and John Adam Dagyr? For even where such names are somewhat less emblazoned of fame, history, with impartial pen, omits not the pregnant facts, that here in Essex were made the first dies for mint-coinage, and the first engine for extinguishing fire; that here was obtained the first American patent, and that for the first and only scythe ever brought to successful use by the haymaker.

But why do I thus, with reiterative memory, array these things afresh before you, familiar as most of them must be already? Because, in an account of so rich and abundant honor, I seek for that which underlies and animates the whole. In all this reckoning of eminence and leadership, I look after that calling which may stand as foundation, or as fountain-head, for all this worthiness. And where shall I hit upon it—where shall I reach that craft that feeds others, but is unfed of them, that clothes others, but is not clad by them, that teaches what nature alone has taught it, and preaches only the gospel of God—where shall I find such a vocation except among the tillers of the ground and the keepers of flocks, among those whose most ancient ways were even learned of old within sight of the flaming brand above the gate of Eden?

You will understand me. I assume the point, and will prove it if I may, that as our well-esteemed community of Essex stands high in the scale of talent and enterprise, so the welfare of that talent, the good fortune of all that enterprise, have always found, and do to-day find, themselves basing down upon her agriculture, resting back confidently and securely against that class of men and of minds that in the indifferent manner of common speech we call her farmers.

Digitized by Google

Let me guard myself again. In England and elsewhere there are royal and aristocratic estates, decimated continually by death; and lower classes, so called, of coarse, and stern and rough-hewn humanity, from whose sounder timber the losses of the other are constantly repaired. This, too, may not indicate dishonor, yet I would not thus rate the unincorporate guild of whom I am speaking. In their case the nobility is rather with them, while it is still obvious that theirs is much the same relationship to the soil, as that which pertains to their humbler and foreign prototypes. It is not from our tillers of fields and feeders of herds that any higher rank is to be recruited. They have their own nobility. They have brought their race to its own sceptre, and like Napoleon, commenced a dynasty for themselves. Here and there are seen the shining memorials of their canonized great—of Choate and Tudor by the seashore, of Newell by his own broad river, and of Newhall by his little brook, of Pickering in the halls of the nation, and of others, brilliant in church, state and profession, dotting the county with spangles of eminence. No doubt the farmers of England may be vigorous and apt enough to move toward a better civil liberty; but the farmers of Essex were never less than noble, and that without waiting for decree of Garter-King at arms, or patent from the Crown. I speak not of banquetings nor liveries, of servants' halls nor trappings heraldic; but of that nobility that enables the citizen to meet the monarch with calmness, and makes him to be ready furnished for his place in the nation's highest councils, whenever her call shall reach him. In the homes of such have always lain familiar to every hand and eye, the Bible and the Dictionary, the muse of Goldsmith and the profundity of Locke, the searching words of Jeremy Taylor

Digitized by Google

and the fiery visions of the Pilgrim in his progress. Their culture has been broad without multiplicity, and deep but not obscure. And this is the class—these are the men—of whom I say that they have stood behind and upheld the greatness of Essex, and propped her eminence wherever she has achieved it.

Need I reiterate, that this judgment is not for the flattery of the farmers that are its subject. I do but take them for an example, though I know not another so good, of a great and general principle. For if, in this favored and historic county, where letters have thriven, and arts have prospered, where Science has spread her broadest wing, and Philosophy wheeled forth like a conqueror,—if still this mass of quivering, vital thought, like the live and pulsating human flesh, has found within itself the solidities of agriculture, like the strong bone, staying the whole and guarding well the marrow of nervous feeling—if this be so with *us*, how much more shall all these things of liberal growth of the mind and spirit depend on the intelligent culture of the primal earth, in places where *that* is strong and they are only feeble?

Perhaps I need not further elaborate this argument. It may be admitted that the real strength and patronage of all that is refined in science and art rests in the sound sense and thrift of those who stand at the plow. It may be sufficiently obvious, that as the courses of architecture grow lighter and weaker upward, shading at length into mere decoration and ornament, so conversely, from the pencil of the artist and the quavering of the songstress, all human pursuit strengthens oppositely, till the foundation appears where no orator gesticulates and no trumpet is blown, but the cattle tug at the yoke, and the plain barn is crowded with that which comes of

Digitized by Google

three hundred annual days of well-reasoned labor. If so, I reach my theme. For with such a yeomanry before me, and such a historic enlightenment kindling in the very ground I tread, I stop and ask myself, as I ask you to-day to consider, *What are the relations of Agriculture to the best and highest civilization?*

The civilization of to-day is no doubt better than any the world has seen before. To say that there is no better still beyond and to come, would be too much; yet no man knows of it save by conjecture. We have to do with that of to-day as the best yet devised, and that for the security and promotion of which we are all obligated and responsible. If we analyze it, it is a composite thing, multiplied in parts, and full of dependencies. To deal with it in every aspect is more than enough for the wisdom of every statesman, and the acumen of every teacher. Yet, like all stupendous existence, the more it is studied the better it is known; and it may be more useful to work awhile at a few of its most salient points, and try to understand them, than to do nothing, on one hand, or, on the other, seek to do the whole when we cannot. And thus, considering the relations of agriculture to the best civilization, let me say, at the outset, that it is *The Nurse of its Truest Liberty.*

There may be in it something of imagination, but to me it always seems as if each craft of mankind bore upon its very face something of its spirit and social tendency. The artisan, even in his freest condition, acts and moves like a man employed under another, and too often, more than this, under the surveillance of his fellow-workmen also. The mere day-laborer, though with us the fact is denied, still wears the look that tells of submissive, unthinking muscle, and too nearly

Digitized by Google

affiliates him with the beasts he drives. The artist and man of imagination, with face half-spiritualized, shows yet in that face the deep uncertainties of his own living. And so of the rest. But he who stands upon his own acres bares his brow to heaven with another aspect. He stands nearer to a certainty. So far as human hands may hold it, the key of his life and welfare is in his own grasp, and he knows it. And thus he meets the world half-way; able, if need be, to retire to the fastness of his own economical home, and there defy the besiegers. They may sit before his walls while they will; but the rain and the sunshine are his, and the earth, despite of foes, shall give him always meat and drink in its season.

To prove the husbandman the original freeman might seem superfluous. The examples of the world and of history are almost too many. The freest people of Europe have perched themselves upon the Alps, where, though the cultivated crops are slender, the true agricultural spirit leads them, with free breath and step unfettered, to pasture their herds, and sing their *Ranz des Vaches* on the grassy slopes of Mount Rhigi and the Matterhorn. And shall we not recognize the fact, that those time-honored stern barons of England, who gave such resistless *dicta* to King John that he ground the chips of the wayside between his teeth for rage when he dared not deny them,—shall we not recognize in them the landed agriculturists of that day, and the progenitors of those whose influence has since turned that land into a garden of fruitfulness, and her laws into institutions of liberty?

I anticipate here an objection. It has been repeatedly said, for years past, that our Southern States stood, as an agricultural community, opposed in nature to the manufacturing people of the North. Indeed, all will remember the boast of

Digitized by Google

secession, that they *were* thus agricultural, and such a people could not be subjugated. Yet it was this same people who gave to the world the revolting spectacle of domestic slavery, and a great civil war waged for its defence.

But I see no incongruity. It is not fortunate for the body politic when any one industry grows to an inordinate or disproportionate bulk. The agriculture of the South was certainly in this position. There were not wholesome manufactures enough joined with it to make a stable combination, but it stood as a wall made wholly of mortar, an earthwork merely. And it were no wonder, if, on an agriculture thus overgrown and heedless of its natural associations, there were engrafted the false branches of oppression, fictitious license, and unlawful ambition. Had it kept to its true relationship, as that of our own section had been allowed to do, we should not have seen it fostering slavery, discouraging manufactures, nor despising liberal arts and education, even as it more than despised a free government and the rights of the people. But I hasten forward. A sound agriculture appears as *the Best Friend of Honest Trade.*

The highest civilization among men can, probably, never overtop the necessity of commercial traffic. No speculations of Fourier, no Republic of Plato, or Utopia of Sir Thomas More, has yet been able to explain away the need of mercantile exchanges of some sort among the people, and if so, there is almost as great need that they should be honestly conducted. And here I will ask only your attention to the facts, since I have not time to enter upon the argument *a priori*. Said the great Webster, in one of his moments of triumph, "There is Massachusetts, look at her!" Adopting his thought, I say, "There is American Agriculture, look at *her!*" What

Digitized by Google

is her position before the world to-day, in the time when dishonesty and brazen robbery have almost their own way, and more is written and printed upon financial criminality than was upon the breadth of the civil war a dozen years ago? What shall we say less than this, that the robbers and embezzlers, the rogues, burglars and defaulters, have *not been found among her followers!* We will not overpraise the farmer; but there is something about his calling that keeps him, apparently, out of, and aloof from, most of such criminalities as these. What it is, you can say as well as I; but certain it is, that this infection has broken out, specially, rather among the classes that cannot afford to wait for gain to grow by any natural seedtime and harvest, but thirsting, like Ortogrul of Basra, for that golden stream which is quick and violent, have broken away from the trammels of the even life of the husbandman, and thrown themselves into the vortex of speculation, high contract, and jobbery. A purely spirited agriculture is too good a friend to honesty to satisfy such; they turn their backs on the farms of inner New England, and, pressing into the cities and greater towns, seek for that fevery meat that alone can answer the appetite of a Tweed or a Winslow. I say that the fact that husbandry owns almost none among such misdoers, is enough to raise more than a presumption that the field and the pasturage are not good soils in which to grow a first-class rascality. The motive to all this obliquity seems, mostly, to be a restless haste for premature wealth; but the atmosphere of the farm is, doubtless, always rather that of contentment. There is meanness enough, usury enough, hard bargaining enough, among the agriculture of our country; but it does not tempt the cupidity of man like the brokers' board or the stock office. The nar-

Digitized by Google

row-souled man may rot his apples rather than lower his price, or bargain his corn to the whiskey-maker for a slight advance over the hungry of the land—these are bad enough—but they are legitimate and fair beside the traffic in building-jobs, the clandestine trade in patents and pardons, the corners in fancy shares, and the flying of "kite-paper." And again I say, the art of the husbandman is blessedly removed from these by its nature, and its influence on him must always be in the direction of an honest trade, that seeks to render equivalent for equivalent, and thus only. But I hold that Agriculture is related to Civilization, as *the Promoter of its Education.*

I am not about to open again the debates that have distinguished Massachusetts for the last thirty years, nor to bring forward for fresh worship the idea, that teaching is good only in proportion to its magnificence. I think no one will oppose me if I say that I recognize a true, real, natural education of youth, before, above and beyond, all special systems yet enunciated. It is that education that seeks to develope the young man or woman symmetrically, to give broadening and deepening views of life, its methods and its needs. It is that which tells the boy that patient growth is earliest perfect; but that soon ripe is soon rotten. It is that which encourages him to be excellent in something, but not wholly ignorant in anything. It is that which shows him that he has a perfect right to be President, but lays its hand on his head and prays God he never may wish to be. In a word, it is that which can instruct the child, and will, wherever it meets him, whether in the school-room palace, or the factory at noontime; whether in the woods by the sled, with the oxen chewing stalks in the snow, or at mother's knee by

Digitized by Google

the fireside, where Doddridge learned the story of the Cross, and West earned the loving kiss that "made him a painter."

Such, reduced to simple facts, is nearly the education that our own Essex has always encouraged. I will put this statement on trial for its verity, and any one may look up the evidence. We have not despised the college or the classics; yet the young men who from our midst have entered on them, have carried thither more of sound and useful education than they added thereafterward. It was learned at home, by snatches, after supper, or in the little common school, a mile from the house in summer, but surely two when the snow was deep. It was learned because it was hungered for, and not because it was fashionable; because the boy verily thought that strength and wisdom were the noblest attributes of man, and to these he labored gloriously to aspire. Such motives have for two hundred years urged the youth of Essex forward toward learning, and the result—is it not written and laid up in the archives of the nation and the world? Yet all this is not the way of merchants and manufacturers. It is hardly the method of the counting-room or the quarter-deck. But where you see the cows thick on the pastures, where you can count the corn-rows a mile off in spring, for freedom of weeds, and the apples are heaped under the autumnal trees as if busy ants had piled them,—there are boys who demand, and find out, *why* they carry one for every ten, and girls that, being taught the revolution of the earth, would at least get an idea that it turned over. But a step beyond this shows Agriculture as *the Stimulus of Science.*

The world is to-day proud of its science—proud of what it has learned of the laws of nature. It is so proud and so pleased with its scales and measures of the inanimate world,

Digitized by Google

that it aspires to place them on the pinions of Life, the rainbow of the Mind, and even the still small voice of Deity. I am not about to declaim at all against its follies, nor utter loud warning against its excesses; for that which is true shall alone endure, and that which it builds of stubble will surely come to nought. That the verities of science are a benefit to humanity, one must be weak indeed to deny; and of these no one is better prepared to see the value in practice than the tiller of the ground. For if it be the province of a true science to investigate and expound the laws of nature, surely the man who of all stands most near to her side will be the best customer in that mart. He talks with botanists, for he needs to know more and more of the structure and style of vegetation. He consorts with geologists, for the rocks are the original of soils, and to know something of the material is to command a surer result. He can welcome the chemist at all times, for what part of his calling does not need his lessons?—and whoever can teach him of climate and the atmosphere, is a friend in need, whether for drouth or storm.

We may say that some special lines of study fit better some other pursuit than this. The mariner has greater need of astronomy and the mathematics than the farmer; nor will the latter be urgent after the finer engineering, nor perhaps the profounder optical and electrical studies. But for science in general, and especially all that treats of organic and living existences, he is the man of strongest and most abiding appetite.

Let me be understood. Much has been said of "book-farming," and, if I mistake not as to its present popularity, the nays have it by a plain majority. Yet this term, applied as it usually is, to a merely theoretical agriculture, has no connection with science as I speak of it. For agriculture, of

Digitized by Google

all the arts in the world, is, and ever must be, thoroughly empirical. No rules for it can be stated beforehand that shall be general; no methods contrived that will work well always. The cultivator must experiment and try; compare and study results, and try again. He will not long believe with Liebig that the ashes of a plant contain all things needed for its growth, nor with later chemists, that the analysis of a handful of soil would give a certain indication of the composition of the whole field. He sees, with the plain eye of common sense, that in such a pursuit an infinity of causes must be concerned, and therefore the joint effect cannot be predicted, but must be always found by observation. And thus he is the man to encourage the study of all natural science, whether in the mutations of temperature, the probabilities of weather, the habits and movements of insects, the knowledge and agency of beasts and birds, the reactions of all chemical forces, and the growth of every green thing, from the hemlock to the herdsgrass. I might dwell here long; but I hasten to say that agriculture is *the Encourager of Art.*

Possibly I may here encounter a doubt; for one may ask if the painter, the poet, and the sculptor, were not always more at home and better welcomed in the city than the country, in the palace more than the homestead. This may be, and yet be more a statement of what has been, than of what might, or ought to be. For it is still true, that if the patronage of the artist be in the metropolis, his best inspirations are far oftener than otherwise drawn from nature unsubdued, or the gentleness of country life. And considering the insatiate and immortal character of that aspiration that makes the artist to be what he is, may we not reckon that as much for his encouragement that gives him food and material for thought,

Digitized by Google

as that which buys his works at a price in the shambles? Yet even this is not all my argument. I look out on the innumerable scenes of the country and the farmstead, full of beauty and significant of all that is lovely, and I say if the undevout astronomer is mad, what shall be said of the unartistic farmer? I know the yeoman is not blest with much leisure for the study of Raffaelle or Mendelssohn; he is not very familiar with the dialect of Tennyson, or of the sculptor's modelling-room; but he as well as any one, nay, better, can and does appreciate the sublime truth, that art is, rightly, only the visible expression of beauty, and that beauty is a high gift of God, which let no man despise.

It is the most cruel uncharity to assume that the heart of the husbandman is hard against the loveliness of art. I have been among such all my life, and know better. I heard a wealthy manufacturer say that he had been in the famous gallery at Dresden, but whether he saw the Sistine Madonna he was not sure, for it rained, and he was looking after his umbrella! I do not believe any farmer of Essex would have missed that picture, though some might have gaped a very little while they admired it. For who of all our people seize most greedily upon all such refinements when available, if not these? Who likes best to improve his place and make a graceful drive up from the highway to its door? Who will try to set his trees to the best advantage, and dispose his flower beds well before the house, for the finest effect of the posies that grow there, and of the matron and maidens that tend them? Who buys a good picture when he can, and a handsome book often, and is even willing to dare to look on a premium chromo, rather than have nothing of the kind? Take your fine performers and go among the farms of New England with a choice entertainment. You will bring to your

Digitized by Google

hall twenty cultivators for one of other callings, and their proportion to the whole population will be fifty per cent. greater than in any city you can visit. The man who has all these things crowded and piled along his daily path gets indifferent to them; but the yeoman's appetite is always sharp, and more than that, it is rarely unnatural.

After this outline of a proof that need not be further detailed or extended, I will leave it for your own judgment whether the natural influences of agricultural pursuits are not related to a high civilization in a way most favorable to the latter. Nor will I advance the question, almost impertinent here, whether such a civilization be not the most desirable of all things for human beings, dwelling together in anything called society. But a plain conclusion must follow. It may not happen, as matter per consequence, that the thoughts and habits of the yeomanry of the country will be fully up to the natural and theoretical demands of their pursuit. And therefore am I here to-day; not to deck your farms with rhetorical rainbows, nor flatter you with high commendation; but to show you that you have a duty, and that the circumstances of the age are making it more and more imperative.

The common trite expressions as to the antithesis of town and country, are not necessary to be here repeated. We are all well aware that the correcting, revising, recuperating force resides in the country, for the restraint of the hot and seething evils that breed so fast and foully in the cities. Nothing to-day holds the vicious multitudes of New York in check but the salutary thought and strong hand of the country behind it; and were that country more like New England in social character, there might be found resemblances between the two capitals where now there are only contrasts.

Digitized by Google

I speak for another reason. The next great period will no doubt witness large changes from the present social condition. For twenty years past, at least, the country and its pursuits have been constantly drawn upon—depleted—robbed of their natural reproduction by the factitious attractions held out by the denser communities, to induce the young to forsake the plough and hayfield, and join in the chase after wealth in an hour, and eminence in six lessons without a master. To such an extent has it gone that a smooth-faced boy, even, seeing in his folly no quicker method, resorts to train-wrecking, thinking in this bold way to force a large and sudden income without labor. But it seems as if the insane thirst that had driven men away from the sure and peaceful path, and made them cry, as did a distinguished politician of Maine, that he "within four years would be either in hell or in Congress," must soon experience a crisis. The land is, meanwhile, starving for labor, the sod gets thick on the old cornhills, and the fields that would give the tiller a safe and not too toilsome living, run to bushes, because he has gone to the city for more than a living and got considerably less than one. It is against this unnatural distribution of things that your efforts, O husbandmen of Essex, may well be directed. You are in part responsible for the leaning of this social tower, that threatens more its fall than does that of Pisa. The jobbing and managing crowds of State street and Wall street may boast of refined manners and elegant homes; I do not care: theirs is not a high, a noble, a beneficent civilization. They may display wealth and feed fat in luxury; but so could the courts of Pharamond and Charles II. and both were cursed with a corruption to which our own erratics even now seem tending. In your hands, I say again, is the medicine for such frenzies,

Digitized by Google

if you stand for the interests of agriculture, and if you deserve the character I have drawn; and the nation shall hold you responsible if it is not applied. The elements of a high civilization are nowhere more developed or more in the hands of the agricultural class than in Essex: let us see you strike an early blow at the false life that usurps the true vitality of the people. Open the resources of your lands and the encouragements of your towns, and try to draw back within wholesome and unfevered influences those who, in delusion and mistake, are thronging the streets of our cities, and daily falling backward in all that belongs to a lofty social culture. Cry to them, as you can well afford to do, that when God made man to dress the soil, he proved his perfect and sufficient wisdom. If you have in time past showed discontent yourselves, and told your boys that farming was poor business, retrieve your error before they are far gone in business worse than any farming can be. Call to them that contentment dwells indeed in the homestead; and as the faithful spies said of the promised land, "Come up and possess it, for we are well able to overcome it." Then, when by your judicious efforts, you have drawn back to your side some of those who have wandered away, may we begin to breathe a clearer atmosphere, and feel that the Simoom that is called Enterprise and means Madness, has passed us with its deadly heat. Then, if you have reasonable success, and others follow your example, when the great art of Agriculture, first made of the Almighty, has come more nearly to its true estimation among the people, may we hope for a pure and lofty civilization, for the prosperity of Liberty, Uprightness, Education, Science and Art, and that good Religion of God that surmounts and includes the whole!

Digitized by Google

Digitized by Google

THE EXHIBITION.

The Cattle Show and Fair was held at Danvers, Sept. 26th and 27th, 1876.

The entries in the several departments of the show were as follows:—

107 cattle of all kinds.
90 horses and colts.
60 swine.
38 sheep.
84 coops poultry.
23 ploughing teams.
7 agricultural implements.
14 carriages.
8 dairy.
49 bread and honey.
About 1500 plates fruit.
124 entries flowers.
75 " vegetables.
117 " counterpanes, etc.
4 " articles manufactured from leather.
10 " manufactured goods.
40 " children's work.
177 " fancy and works of art.

As the above list shows, the exhibition in nearly every department was very full and complete, the exception being a falling off somewhat of the number of cattle from the last show.

The show of fruits, flowers, and domestic products, at the Peabody Institute, is believed to be larger than ever before, especially that of fruits.

Digitized by Google

The exhibition of vegetables, in the society's tent adjoining, was remarkable for the fine specimens and great variety, that of J. J. H. Gregory embracing all the vegetables known in our markets, with many rare specimens not often seen there.

The ploughing and drawing matches showed great skill on the part of the contestants, and were witnessed by a large concourse of people.

The address by Mr. Tracy, found on the preceding pages, was listened to by a large number of people.

The society's dinner was partaken of by five hundred gentlemen and ladies, and was honored by the attendance of His Excellency Governor Rice and Staff, Hon. Charles P. Thompson, M. C., Mr. Baker, member of the State Board of Agriculture, and other distinguished men.

On the whole, the Fair was one of the most successful ever held by the Society, both in the value and attractiveness of the contributions and the number of people present from all parts of the county.

Digitized by Google

REPORTS OF COMMITTEES, &c.

FAT CATTLE.

Henry Gardner, Salem, pair of oxen, 1st prem., $12.

A. H. Gould, C. W. Lord, Horace Ware—*Committee.*

BULLS.

The Committee have made the following awards:—

For the best thoroughbred Bull, of any age or breed, with five calves of his stock not less than one year old,—to J. Longfellow, of Newbury, for his thoroughbred Jersey Bull, "Little Micawber," the special premium of $30.

For thoroughbred Ayrshires, two years old and upwards,—to Asa T. Newhall, of Newburyport, for his bull "Rob Roy," the first premium of $12.

For thoroughbred Jerseys, two years old and upwards,—to G. W. Russell, of North Andover, for his bull "Son of Rosa," the first premium of $12.

For thoroughbred Jerseys, under two years old,—to Francis R. Appleton, of Ipswich, for his bull "Royal Duke of Ipswich," the first premium of $6.

For thoroughbred Holsteins, two years old and upwards,—to Wm. A. Russell, of Lawrence, for his bull "Consul," the first premium of $12.

For thoroughbred Holsteins, under two years old,—to Wm. A. Russell, of Lawrence, for his bull calf "Brett," the second premium of $4.

The second premium, instead of the first, was given to the last named animal, not by reason of any deficiency in quality, but because, in the opinion of the Committee, he was too young to be entitled to the first premium.

Digitized by Google

In accordance with the laws of the State, and the rules of the Society, both in the best interests of the stock breeder, the Committee declined to consider the claims of any animal whose owners neglected to furnish "a written or printed statement of pedigree."

By order of the Committee,

HENRY SALTONSTALL, *Chairman.*

MILCH COWS.

The Committee on Milch Cows submit the following report:

For the best Milch Cow of any age or breed, with satisfactory record of her daily yield of milk for one or more years, —to William A. Russell, of Lawrence, the Society's *special premium*, for his Holstein cow "Lady Clifden," $25.

To this award the Committee think proper to annex Mr. Russell's statement, as follows:—

"Lady Clifden. No. 159, H. H. B. Imported from Midnond, North Holland, by Wm. A. Russell, October, 1874. Now eight years old. Dropped calf Feb. 1, 1875.

1875. Record of milk, twelve months, from Feb. 3, 1875:

February, (27 days,) - -	1600 lbs.
March, - - - - -	2093 "
April, - - - - -	1709 "
May, - - - - - -	1639 "
June, - - - - -	1590 "
July, - - - - - -	1487 "
August, - - - - -	1380 "
September, - - - - -	1277 "
October, - - - - -	1277 "
November, - - - - -	1070 "
December, - - - -	831 "
January, 1876, - - - -	321 "
	16,274 lbs.,

or 7745 quarts in 363 days. Average, $21\frac{143}{363}$ quarts per day."

Digitized by Google

1876. "Dropped her calf May 8, 1876. Due to calve, April 4, 1877. Record of milk from May 23 to Sept. 1st, as follows:—

May, (9 days,) - - -	605 1-2 lbs.
June, - - - -	2052 1-2 "
July, - - - - -	1755 "
August, - - - -	1430 "
	5843 lbs. in 101 days

Largest yield in any one day, 75 lbs., or 35 5-7 quarts."

One of the committee witnessed the milking of this cow, one evening of the last summer, and confirms the truthfulness of the foregoing statement.

For the best Milch Cow, foreign, native, or grade, not less than four nor more than ten years old,—to Geo. W. Russell, of Lawrence, for his Jersey cow "Nellie Blenn, 2d," A. J. Herd Book. No. 1148. First premium, $12.

The following statement was submitted by Mr. Russell:—

Dropped calf, Nov. 13, 1875. Due to calve, Oct. 12, 1876.

Nov., (15 days,)	442 quarts.	Average per day,		29 1-2	qts.
December,	837 "	"	"	27	"
January, 1876,	744 "	"	"	24	"
February,	630 "	"	"	22 1-2	"
March,	510 "	"	"	17	"
April,	427 "	"	"	14 1-4	"
May,	380 "	"	"	12	"
June,	300 "	"	"	10	"
July,	240 "	"	"	8	"
Total,	4510 qts.				

Her feed to 20th of May was clover, two quarts of meal and four quarts of shorts. From 20th of May to August 1, pasture only. Since August 1, two quarts of meal and four quarts of shorts.

Second premium, for best Milch Cow, $9, to Wm. A. Russell, for his Holstein cow "Maud Marion," No. 181, H. H. B.

Digitized by Google

This cow is four years old. Dropped her first calf January 28, 1875. In twelve months, as appears from statement made to the committee, she gave 11,112 quarts. Dropped second calf July 8, 1876. From July 12th to Sept. 1st, averaged 24 quarts per day. Feed, pasture and three quarts of grain per day.

For best thoroughbred Jersey,—first premium, to Francis R. Appleton, of Ipswich, $12, for his cow "Islip, 3d," No. 1883, A. J. C. C. Register.

For the cow that makes the most butter in any single week,—first premium, to Charles J. Peabody, Topsfield, $12.

H. G. HERRICK, *Chairman.*

HERD OF MILCH COWS.

For the best herd of Milch Cows, not less than five in number, to be exhibited at the show, and a correct statement of manner of keeping and yield for the six months preceding given. 1st premium, $18; 2d premium, $12, 3d prem., $10.

The exhibitors were George W. Russell, Lawrence, and Charles J. Peabody, Topsfield.

Members of the Committee present, besides the Chairman, D. G. Todd, Wm. C. Sleeper, and E. G. Berry; and they were unanimous in their opinion that the statements did not comply with the above rule, and were therefore unable to award the premiums; but recommend that gratuities of $12 be given to both competitors.

This rule is subject to two interpretations: one, that the yield for the whole or any part of the six months may be given. Carrying out this principle, a cow may have been in milk only a week, or may have been dry all the time. The other, that the cows must have been in milk during the whole six months.

Your Committee took the latter interpretation. In conver-

Digitized by Google

sation with officers and members of the Society, they found that some agreed and others differed with their judgment.

Our regulations ought to be so plain that he who "runs, may read," and understand; and we do not admit that the above rule is one of that kind, as is shown by the different interpretations which may and have been put upon it. Moreover, it is not sufficiently explicit, it is too general, it does not require the minutiæ of management, keeping, etc.

We have examined the reports of our Society for the last five years, and have not found one statement of manner of keeping and yield from which the reader would derive any special advantage or instruction.

Here is the statement of one year:—

"Their keeping since June has been grass. They have averaged 10 quarts of rich milk per day, and from 45 to 50 pounds of butter per week during the season of grass;" yet on such a bare and incomplete record as this, the first premium was awarded.

In another year the first premium was awarded to a herd of cows with regard to whose manner of keep and yield there is no statement whatsoever.

Does not this show, either that this rule is considered of no consequence, or that its meaning is not understood?

No matter how good looking the individual animals in a herd may be, it is their record which ought to govern the Committee more than anything else, in judging.

Statements in regard to keep and yield of cows are of comparatively little value, unless they enter into the details, as to the measure or weight of food, measure or weight of product, manner of preparing and kind of food, time of feeding, etc. Moreover, the time of calving should be always stated.

On such a basis as this, the record of two or more herds may be easily compared, and a fair judgment arrived at; but if loose statements and guesses are allowed, the comparative merits are not easily recognized, and the public are taught nothing which can be relied on.

Digitized by Google

We have always supposed that the object of this Society was, on the one hand, by awarding premiums, to encourage the exhibitor; on the other, by publishing reports, to endeavor to instruct its members by giving trustworthy and valuable information. That both purposes may be accomplished more fully, the Committee recommend the alteration of the rule in regard to herds of Milch Cows, as follows:—

For the best herd of Milch Cows, not less than five in number, to be exhibited at the show, and a correct statement in writing of manner of keeping and yield for any successive six months between January 1st and September 20th of any year. Each cow must have been in milk at least three months. The statement must give every detail possible,—the measure or weight of grain or roots, an estimate of quantity or weight of hay, the measure or weight of product in milk or butter, manner of preparing and kind of food, hours of feeding, when last calf was dropped. The weight or measure of milk must be taken each week and stated in writing, then an average of the whole time may be given. An exact record of the daily yield of each cow would be preferred. 1st premium, $18; 2d premium, $12; 3d premium, $10.

An additional premium is also recommended. For the best herd of Milch Cows, not less than five in number, with statement as above, only extending over the period of one year. Each cow must have been in milk at least six months. First premium, $20. Second premium, $15.

If we make a comparison between the two statements handed to the Committee, we find that Mr. Peabody enters more into the details of management, etc., gives the time when the last calf was dropped—a very important matter. His cows yielded 378 pounds of butter and 550 quarts of milk. Allowing 12 quarts of milk to one pound of butter, the whole yield in milk would be 5086 quarts. Supposing the record of yield was made up to about Sept. 20th:

Digitized by Google

Cow No.	1	would have been in milk,		150 days.
"	2	"	"	160 "
"	3	"	"	125 "
"	4	"	"	128 "
"	5	"	"	180 "
Total,				743 days.

Reckoning 5086 quarts as the yield of one cow for 743 days, we have an average of 6.84 quarts, or nearly 7 quarts per day. For 365 days, or a year, the product would be 2555 quarts, or 5493.25 pounds,—a fair record. We must bear in mind, however, that this was not the yield of one individual cow; but the concrete yield of five cows soon after calving.

Mr. Russell's foreman, Mr. Reynolds, stated verbally that three of his cows calved in January and two in June. Considering three cows to have been in milk 180 days, and two 90 days each, total 720 days, at his average of eleven quarts per day, would give a total yield of 7920 quarts, or 17,028 pounds.

Since August 1st, Mr. R. fed two quarts of meal and four quarts of shorts, besides corn fodder. Since August 1st, Mr. P. fed four quarts of fine feed, besides corn fodder.

Mr. R.'s cows' yield in milk far surpasses that of Mr. P.'s, and reckoning 7920 quarts as the yield of one cow for 720 days, or 4015 quarts for 365 days, would be considered a very large record for one individual cow.

The Committee make this report, without entertaining the slightest ill-feeling toward the exhibitors, or any member of the Society; but simply for the reason that they consider the "rule" is not clear in its meaning, and moreover does not enter sufficiently into the details of management, etc., which are necessary for the enlightenment of the public, and also for the basis of a fair judgment.

The Committee hope that the Trustees will, at least, take

Digitized by Google

such action as will make the matter clearer than it is at present, for the benefit of future exhibitors and judges.

J. D. W. FRENCH, *Chairman.*

North Andover, Oct. 12.

STATEMENT OF CHARLES J. PEABODY.

To the Committee on Herd of Milch Cows:—

I enter for premium my herd of six cows. For convenience of description, they are numbered from one to six, by cards attached to their horns. No. 1 calved April 20; No. 2 calved April 10; No. 3 calved May 15; No. 4 calved May 12; No. 5 calved Dec. 10, 1875. They were kept last winter on meadow and salt hay, with one feed (six quarts) of roots per day, and one feed of English hay to those giving milk.

This summer they have had a good pasture, with corn fodder at night, from August 1 to September 1, and four quarts of fine feed in the morning; since Sept. 1, corn fodder, both morning and night.

The calves were kept four weeks, excepting that of No. 5, which was sold young. They were worth at that age $7 each.

There has been made from these cows, since April 1 to date, three hundred and seventy-eight (378) pounds of butter, besides five hundred and fifty (550) quarts of milk used for other purposes.

CHARLES J. PEABODY.

Topsfield, Sept. 25, 1876.

STATEMENT OF G. W. RUSSELL.

I offer for premium my herd of five cows, pure bred Jerseys. These were fed in winter with good hay, and two quarts of meal, and four quarts of shorts. With the exception of one cow, they gave milk up to calving, and calved between January and July. Their feed since May 20th has been pasture feed only until Aug. 1st. Since then they have had one quart of meal and two quarts of shorts twice a day, besides some

Digitized by Google

corn fodder. Since March 1st they have averaged eleven quarts per day. Measured their milk one week in each month.

G. W. Russell,
By Wm. B. Reynolds.

HEIFERS.

The Committee on Heifers would report that the stock entered for premiums was of unusual excellence, and gave the Committee a difficult task to decide on the relative merits of the animals.

They award premiums as follows:—

Thoroughbred Heifers under four years old, in milk:

Jerseys—1st premium, $12, to Francis R. Appleton, Ipswich, for his heifer "Bessie." Second premium, $6, to Francis R. Appleton, Ipswich, for his heifer "Molly."

Dutch—First premium, $12, to Wm. A. Russell, Lawrence.

Thoroughbred Heifers, one year old and upwards, never calved:—

Jersey—First premium, $6, to F. R. Appleton, Ipswich. Second premium, $4, to Frank W. Bly, Danvers.

Dutch—First premium, $6, to Wm. A. Russell, Lawrence. Second premium, $4, to Wm. A. Russell, Lawrence.

Heifer Calves, thoroughbred, under one year:

Ayrshire—First premium, $5, to J. S. Ives, Salem.

Jersey—First premium, $5, to George W. Russell, Lawrence. Second premium, $3, to Francis R. Appleton, Ipswich.

Dutch—First premium, $5, to Wm. A. Russell, Lawrence. Second premium, $3, to T. P. Pingree, Salem.

Native or grade Milch Heifers, under four years:

First premium, $12, to C. Gafney, Danvers. Second premium, $6, to S. F. Crossman, Swampscott.

Native or grade Heifers, one year old and upwards, never calved:

Digitized by Google

First premium, $6, to Martin Root, Newbury. Second premium, $4, to Charles Ham, Danvers.

Heifer Calves under one year old:

First premium, $5, to J. Longfellow, Newbury. Second premium, $3, to S. F. Crossman, Swampscott.

Jos. S. Howe, T. B. Fall, Benjamin N. Giles, S. F. Newman—*Committee.*

WORKING OXEN.

J. J. H. Gregory, Marblehead, first premium, $15; Chas. P. Preston, Danvers, second premium, $12; R. S. Bray, Newbury, third premium, $10.

WORKING STEERS.

D. C. Hathaway, Danvers, first premium, $10.

Joseph Kittredge, John Danforth, Edward Kent—*Committee.*

STEERS.

The Committee on Steers report that there was but one entry, and that of three-year-old steers, and award the first premium of eight dollars to George F. Mason, of Andover.

George B. Dodge, H. F. Longfellow, Jas. T. Carlton, A. P. Fuller—*Committee.*

STALLIONS.

There were fifteen entries. Premiums were awarded as follows:—

First premium, four year old stallion, H. E. Holt, Bradford, $18; second premium, four years old stallion, C. F.

Digitized by Google

Pendergrast, Salisbury, $12; third premium, four years old stallion, Wm. A. Keleher, Lawrence, $10.

First premium three years old stallion, John Hathaway, Salem, $10; second premium, three years old stallion, J. P. L. Wescott, Newburyport, $6.

Wm. Cogswell, J. P. Cross, H. McGlue, O. S. Butler—*Committee.*

BROOD MARES.

The Committee on Brood Mares respectfully report:—

The number of mares entered for premiums was large, and the quality was remarkably good. It was difficult to decid upon the comparative merits of many of them, belonging as they did to widely different classes. The thoroughbred, the New England horse of all work, and the heavy Percheron grade of the West, were all represented. And the Committee, in arriving at their conclusion, felt obliged to consider each one of these various families. In awarding the premiums offered by the Society, they do not intend to disparage the unsuccessful competitors, many of which came very near the standard of excellence laid down by the Society. They were highly pleased with the gray mare of Henry A. Hardy, of Danvers, with a Patchen colt by her side; with the bay Patchen mare of John Gibney, with a colt by Salem Boy; with an admirable and good-sized mare of H. G. Kimball, of Bradford, with her colt by Conway; with the Cleveland bay mare of Wm. A. Russell, of Lawrence; and the black mare of George W. Russell, of Lawrence; and for these they recommend such gratuities as the Trustees may direct, and they consider them worthy of honorable mention. In view, however, of the rules of the Society, on the score of condition and soundness, they award the following premiums: To Franklin Alley, of Marblehead, for his thoroughbred mare, the first premium, $18; to Wm. S. Messervy, of Salem, for

Digitized by Google

his Morgan mare, the second premium, $12; to A. Knowlton, of Essex, for his gray mare, the third premium, $10.

Geo. B. Loring, John Hobbs, Samuel Moody, F. H. Allen, Jos. Longfellow—*Committee.*

FAMILY HORSES.

Charles H. Gould, Danvers, first premium, $18; E. W. Jacobs, Peabody, second premium, $12; John Hathaway, Salem, third premium, $10; John Swinerton, Danvers, gratuity, $5.

JONATHAN KING, *Chairman of Committee.*

FARM AND DRAFT HORSES.

Joshua Roberts, Gloucester, first premium, $15; A. T. Newhall, Newburyport, second premium, $12; Paul T. Winkley, Newburyport, third premium, $10; David Knowlton, Essex, fourth premium, $6.

B. Griffin, Silvester Dane, Moses Knowlton, J. B. Thomas, *Committee.*

PAIRS OF DRAFT HORSES.

Perry Knowlton, Essex, first premium, $15; Burnham Bros., Beverly, second premium, $10.

COLTS—FIRST CLASS.

The Committee on First Class Colts report as follows:—

They have examined seven colts, and in the performance of their trying duties, necessarily attending said examination, have come to the following result, to wit:—

Digitized by Google

Four Years Old—J. Grout, Danvers, first premium, $12; A. Knowlton, Essex, second premium, $8; J. H. Fitts, Topsfield, third premium, $5.

Three Years Old—J. F. Dane, Hamilton, first premium, $10; A. T. Newhall, Newburyport, second premium.

LEVERETT BRADLEY, *Chairman.*

COLTS—SECOND CLASS.

Colts Two Years Old—First premium to George Gibney, Salem, for his beautiful stepping colt, $8; second premium to Wm. Grover, Salem, $3.

One Year Old Colts—First premium to Hugh McGlew, Newbury, $8; second premium to George B. Martin, Danvers, $3.

B. F. Jenkins, Charles Perley—*Committee.*

SWINE.

The Committee on Swine have awarded the premiums as follows:—

Boars, Large Bone—First premium to R. G. Buxton, Peabody, Yorkshire, $10; second premium to A. T. Billings, Topsfield, Chester, $6.

Boars, Small Bone—First premium to A. T. Billings, Topsfield, Essex, $10.

Breeding Sows, Large Bone—First premium to T. A. Wilkins, Danvers, $10; second premium to C. F. Goodrich, Peabody, $6.

Breeding Sows, Small Bone—First premium to Patrick Kirby, Danvers, $10; second premium to Mrs. Elizabeth Sanders, Peabody, $6.

Weaned Pigs—First premium to P. L. Day, Bradford, $6; second premium to Daniel Carlton, North Andover, $4.

Digitized by Google

The Committee would make mention of the following contributors, and regret that no premiums were offered for their classes, and would suggest that the Trustees take some action on this matter:

H. G. Herrick, of Lawrence, had on exhibition six remarkably fine hogs, nine months old, grade Essex. These animals were too old to come under the head of weaned pigs, and no premiums are offered for fat hogs.

There were three pairs of pigs on exhibition: Charles Emmerton, of Peabody, one pair Yorkshires, twenty-five weeks old; M. G. Tenney, of Georgetown, one pair Berkshires, eleven weeks old; John L. Annable, of Topsfield, one pair Essex, twenty weeks old. These were very fine specimens of their respective breeds, and afforded a fine opportunity to judge of their distinctive merits.

M. Birmingham, of Salem, showed four Yorkshire pigs, six weeks old, weaned, that were worthy of a premium, but the rules that governed this committee distinctly state that the premium is offered for the best litter of weaned pigs, not less than four in number, between *two* and *four* months old.

W. J. Dale, Jr., *Chairman.*

SHEEP.

The Committee on Sheep have attended to their duties, and report as follows:—

For the best flock of Sheep, first premium, $10, to Francis R. Appleton. Second premium, $6, to E. W. Jacobs.

For the best Buck, $8, to Francis R. Appleton.

For the best lot of Lambs, not less than four in number, to Francis R. Appleton.

Charles C. Blunt, M. A. Plummer, H. M. Goodrich, Geo. Gutterson—*Committee.*

Digitized by Google

POULTRY—FIRST CLASS.

Light Brahma Fowls—first premium to O. Gowen, West Newbury, $2.

Light Brahma Chicks—first premium, to George Hobbs, Salem, $2; second premium, to C. P. Jacobs, Peabody, $1.

Dark Brahma Fowls—first premium, to C. P. Jacobs, Peabody, $2. Chicks—first premium, to C. P. Jacobs, Peabody, $2.

Buff Cochins—first premium, to T. P. Hale, Rowley, $2; second premium, to Arthur Elliott, Peabody, $1.

Partridge Cochins—second premium, to H. A. Southwick, Peabody, $1. Chicks—first premium, to H. A. Southwick, Peabody, $2.

Black Cochins—first premium, to C. O. Putnam, Danvers, $2. Chicks—first premium, to C. O. Putnam, Danvers, $2; second premium, do, do, $1.

White Cochins—second premium, to G. D. Walton, Peabody, $1. Chicks—second premium, to Neal Moynaks, Danvers, $1.

Geese, Hong Kong,—first premium, to Louis P. Hawkes, Saugus, $2; second premium, to Robert G. Buxton, Peabody, $1.

Ducks—first premium, to Louis P. Hawkes, Saugus, $2; second premium, to O. Gowen, West Newbury, $1.

Turkeys—first premium, to Geo. B. Dodge, Hamilton, $2.

James Flint, Jasper Rea, H. M. Berry, Farnham Stiles—*Committee.*

POULTRY—SECOND CLASS.

Plymouth Rock—George D. Walton, Peabody, second premium, $1; Chicks—A. S. Hill, Peabody, second premium, $2.

Dominique Fowls—John Swinerton, Danvers, first premium, $2. Chicks—John Swinerton, Danvers, first premium, $2.

Digitized by Google

White Leghorn Fowls—Joseph Bushby, Danvers, first premium, $2; H. A. Southwick, Peabody, second premium, $1. Chicks, Joseph Bushby, Danvers, first premium, $2; H. A. Southwick, Peabody, second premium, $1.

Dominique Leghorn Fowls—G. D. Walton, Peabody, second premium, $1.

Black Leghorn Fowls—G. J. Johnson, Rowley, first premium, $2; Allen Lee, Manchester, second premium, $1. Chicks—Abram J. Welch, Georgetown, first premium, $2; Allen Lee, Manchester, second premium, $1.

Spanish Chicks—George D. Walton, Peabody, second premium, $1.

Black Leghorn Fowls—D. B. Burnham, Essex, first premium, $2.

G. Poland Chicks—H. M. Larkin, Beverly, first prem., $2.

S. Poland Fowls—H. A. Putnam, Danvers, first prem., $2.

Dorking Fowls—W. H. Allen, Manchester, first prem., $2.

Game Fowls—A. A. Fowler, Danvers, first premium, $2; Chicks—A. A. Fowler, Danvers, first premium, $2.

Bantam Chicks—G. D. Walton, Peabody, first premium, $2; Thomas C. Berry, Peabody, second premium, $1.

S. Duckling Fowls—Charles H. Farmer, Peabody, first premium, $2; Oscar Gowen, W. Newbury, second prem., $1.

Pigeons—Jerry Monigan, Beverly, first premium, $2; J. S. Ives, Salem, second premium, $1.

Rabbits—Charles D. Winchester, Peabody, premium, $1.

JOHN SWINERTON, *Chairman.*

THE REPORT ON STEERS.

[Since the foregoing pages were printed, it has been ascertained that the cattle of Mr. Hathaway, exhibited as four years old, were six years old, and consequently are not entitled to the premium awarded them. Mr. Hathaway states that he was not aware of the mistake in the age at the time of entry.]

Digitized by Google

PLOUGHING—DOUBLE TEAMS.

First premium to R. S. Jaques and R. S. Bray, of Newbury, $12; second premium to D. C. Hathaway, of Danvers, $10.

Joshua N. Kent, W. A. Brown, Jos. Goodridge, D. G. Todd, D. J. Hale—*Committee.*

PLOUGHING—SINGLE TEAMS.

Charles P. Preston, Danvers, first premium, $10; Asa T. Newhall, Newburyport, second premium, $7; J. J. H. Gregory, Marblehead, third premium, $5.

Elbridge Merrill, D. Bradstreet, B. S. Barnes, M. B. Avery, Isaac F. Knowlton—*Committee.*

PLOUGHING—WITH HORSES.

Edward P. Perley, Danvers, first premium, $12; Asa T. Newhall, Newburyport, second premium, $10; J. Kavanagh, Wenham, third premium, $8; G. N. Ordway and M. H. Poore, West Newbury, fourth premium, $6; R. S. Bray, Newbury, fifth premium, $5.

W. B. Morgan, I. A. Rogers, T. G. Ordway, David Smith, J. D. Hildreth—*Committee.*

PLOUGHING WITH SWIVEL PLOUGH.

There seems to be an interest felt among manufacturers of the Swivel Plough to so perfect it that it will do its work as well, or better, than the common plough. In fact, they claim

Digitized by Google

that it does. But your committee to-day feel that that time has not fully come. From what knowledge we have acquired with regard to the Swivel Plough, we find that it makes better work in going one way than it does the other, and that it is not so easily managed as the common plough. When all obstacles can be overcome, and all the merits of the common plough be attained, I think that the farmers of Essex County, and of every other county, will feel that we have advanced one step forward in the means of cultivating our farms, as it would enable us to keep our ploughing more together, have a tendency to keep our land smoother and more free from ridges and dead furrows, &c.

Yet, in justice to the Charter Oak, that has been upon the field to-day, the committee feel that it has done its work well. There were but two entries made, that of D. C. Hathaway, of Danvers, with the Charter Oak, and that of Sylvester Dane, of Hamilton, with the Enterprise—a novel constructed plough, with two mould-boards and a swivel beam, but owing to the breaking of one mould-board before the trial, exchanged it for the Charter Oak, using the same kind of plough that his contestant used. The committee regret that there were not more competitors, and different kind of ploughs. Both did their work very well, but the displacing or breaking of a bolt on Mr. Hathaway's plough, detained and somewhat discouraged him, and consequently he did not do as well as he would under more favorable circumstances.

The committee feel justified in awarding to Sylvester Dane, Hamilton, two horse team, first premium, $10; D. C. Hathaway, Danvers, two horse team, second premium, $6.

There were also a pair of large, young Bulls, well trained, and did good work, belonging to W. A. Russell, of North Andover, to which the committee would have given a premium, had they come within the rules of the Society.

Horace C. Ware, Aaron Knowlton, Albert Kimball, Hiram A. Stiles, Richard Webster—*Committee.*

Digitized by Google

PLOUGHING—BY BOYS.

Special Premium, by WILLIAM SUTTON.

Aaron Winslow, Swampscott, first premium, $25; Charles S. Smith, Hamilton, second premium, $15; Daniel Young, Newbury, third premium, $10.

A. L. Moore, W. H. Kinsman, Otis L. Kent, James F. Gwinn—*Committee.*

AGRICULTURAL IMPLEMENTS.

The Committee on Agricultural Implements respectfully report:—

For the best collection of Implements and Machines, diploma and $15, to Whittemore Bros., Boston.

Best Ox Yoke, complete, to S. F. Ayers, Boxford, premium of $3.

Best Hay or Straw Cutter, premium of $3, to Whittemore Bros., Boston.

For Randal Pulverizing Harrow, gratuity of $3 to E. E. Lummus.

Gratuity of $3 to Whittemore Bros., for Smith Churn.

Parker & Gannett, Boston, gratuity of $1, for Hay Cutter.

For Galvanized iron-lined Cucumber Pump, gratuity of $3, to Whittemore Bros., Boston.

Gratuity of $2, to Parker & Gannett, Boston, for Collection of Implements.

A. B. Fellows, W. H. Felton, Aaron Low—*Committee.*

CARRIAGES.

Dole & Osgood, Peabody, best Top Buggy, $10, and best Market Wagon, $5; E. P. Whipple, Beverly, best Express Wagon, $8; H. H. Dempsey, Wenham, Express Wagon, $5;

Digitized by Google

W. B. Peart, Danvers, Express Wagon, $5; H. H. Pillsbury, Danvers, Display of Carriages, $5; C. W. Bruce, Peabody, Express Wagon, $2.

Aaron Sawyer, David Stiles, Henry Hobbs, R. A. Smith, T. K. Leach—*Committee.*

DAIRY—BUTTER.

Wm. H. Allen, Manchester, first premium, $10; Mrs. L. Lefavor, Danvers, second premium, $8; Mrs. Farnham Stiles, Middleton, third premium, $6; G. W. Russell, North Andover, fourth premium, $4.

Jos. Knowlton, T. K. Bartlett, John Price—*Committee.*

BREAD AND HONEY.

The Committee on Bread and Honey would make the following report:—

There were thirty-seven entries of Bread and Cake, three of Honey, and nine of Preserves, and they award the following gratuities:—

To H. Beal, Danvers, Bread, $2; Abbie E. Elliott, Mrs. George C. Forest, Mrs. George Elliott, Mary Underwood, Josie Shea, Bridget Donovan, Gertrude Spring, all of Danvers, Bread, $1 each; Mrs. E. Walden, Danvers, Brown Bread, $1; L. S. Moore, Danvers, Rolls, $1; Kate Cremins, Danvers, Bread, $1; J. Hale, Jr., & Son, Georgetown, for Fancy Cakes and Pastry, $3; Jessie E. Abbott, Danvers, Loaf of Cake, $1; Dean Perley, Danvers, Honey, $1; E. E. Porter, Danvers, Honey, 50 cents; J. F. Rabardy, Manchester, Honey, 50 cents; R. P. Roberts, Danvers, Preserves, 50 cents; Mrs. Elnathan Dodge, Danvers, Canned Fruit, 50 cents; Dean Perley, Danvers, Preserves, 50 cents; Anna Fiske, Danvers, Jelly, 50 cents.

J. H. CHEEVER, *for the Committee.*

Digitized by Google

PEARS.

Your Committee on Pears have attended to their duty as well as they could under the present system of showing fruit, and would make the following report:—

There were 83 exhibitors, from 17 towns and cities, showing 420 plates. The award of premiums is as follows:—

T. K. Bartlett, Newburyport, Bartlett; E. Bradstreet, Salem, Belle Lucrative; George Pettengill, Salem, Beurre Bosc; Peter Wait, Danvers, Beurre Clairgeau; George Pettengill, Salem, Beurre d' Anjou; A. J. Hubbard, Peabody, Beurre Superfin; Henry V. Buxton, Peabody, Buffum; Peter Wait, Danvers, Clapp's Favorite; John S. Ives, Salem, Duchess d' Augouleme; John V. Stevens, Peabody, Dana's Hovey; A. J. Hubbard, Peabody, Doyenne Boussock; Wm. Huff, Newburyport, Maria Louise; T. C. Thurlow, West Newbury, Howells; Benj. P. Ware, Marblehead, Lawrence; John V. Stevens, Peabody, Louise Bonne de Jersey; Peter Tracy, Salem, Seckel; George Pettengill, Salem, Sheldon; J. Henry Hill, Amesbury, Urbaniste; George Pettengill, Salem, Vicar of Winkfield; Wm. Huff, Newburyport, Winter Nelis; B. P. Ware, Marblehead, St. Michael Archange; Wm. Huff, Newburyport, Golden Beurre Bilboa; G. W. Taylor, Peabody, McLaughlin; E. Bradstreet, Danvers, Onondaga; Peter Waite, Danvers, Paradise d' Autumn—each first premium.

For the best collection of other varieties, J. Henry Hill, Amesbury, Glout Morceau; W. H. Huse, Newburyport, Kirtland; J. Henry Hill, Amesbury, Andrews—$1.50 each.

For the best collection of twenty varieties, J. Henry Hill, Amesbury.

For the best collection of fifteen varieties, Wm. H. Huse, Newburyport.

For the best collection of ten varieties, A. J. Hubbard, Peabody.

Digitized by Google

For best twenty-four specimens, T. C. Thurlow, West Newbury, Beurre d' Anjou.

Gratuities: Peter Waite, Danvers, Bartlett; E. B. Currier, Lawrence, Lawrence; Sherman Nelson, Georgetown, Parsonage; A. J. Hubbard, Peabody, Duchess; W. H. Huse, Newburyport, Seckel and Duchess; J. Henry Hill, Amesbury, Nouveau Poiteau; C. H. Brown, Danvers, Lawrence; A. H. Gould, Topsfield, Beurre Diel; Franklin Upton, Danvers, Sheldon; E. A. Perry, Danvers, Dix; Andrew Lackey, Haverhill, St. Michael.

J. Henry Hill, Hiram Torr, Thomas Hale, Geo. W. Gage, *Committee.*

APPLES.

The principal contributors in this department of the Fair were: J. H. Hill, Amesbury, 31 plates; James Flint, Middleton, 31; Peter Wait, Danvers, 30; B. P. Ware, Marblehead, 26; T. K. Bartlett, Newburyport, 20; D. W. Low, Gloucester, 20; John A. Hoyt, Georgetown, 19; Elisha Hyde, Danvers, 17; Geo. W. Taylor, Peabody, 16; Aaron Low, Essex, 15; William E. Killam, Boxford, 14; John H. Sears, Danvers, 12; J. R. Allen, Manchester, 12; T. C. Thurlow, West Newbury, 11; J. W. Porter, Danvers, 11; Wyatt Woodman, Danvers, 10; making 16 exhibitors of 10 plates, or upwards, each, (representing for each plate a different kind,) with 2 of 9 plates each, 1 of 8, 3 of 7, 2 of 6, 6 of 5, 8 of 4, 15 of 3, 18 of 2, and 61 of 1 plate each, making 132 exhibitors of 558 plates, divided among the cities and towns, with the amount of premiums and gratuities awarded as shown in the following table:—

Digitized by Google

City or Town.	No. of Exhibitors.	No. of Plates.	Amt. Prem's.	Amt. Gratuities.
Amesbury,	1	31	$13.00	
Andover,	1	1		$1.00
Beverly,	1	3	1.50	
Boxford,	1	14	1.50	1.00
Danvers,	73	230	34.00	1.00
Essex,	1	15		3.00
Georgetown,	2	20		3.00
Gloucester,	2	21	Hon. Mention.	1.00
Groveland,	2	3	4.50	
Haverhill,	1	1		1.00
Lawrence,	1	1	1.50	
Manchester,	2	13	1.50	
Marblehead,	1	26	7.00	
Middleton,	3	35	6.00	4.00
Newburyport,	4	34		4.00
Peabody,	18	48	10.50	3.00
Rowley,	4	8		
Salem,	2	8	4.50	
Topsfield.	2	10		
West Boxford,	1	4		
West Newbury,	3	15	10.50	
Wenham,	4	9		
Unknown,	2	8	1.50	
	132	558	$97.50	$22.00

Your Committee awarded for the best twelve specimens of the following varieties which have been recommended by the Society, for cultivation in Essex County, premiums of $3 each,—to Thos. J. King, W. Newbury, Baldwins; E. Bradstreet, Danvers, Danvers Winter Sweet; Mrs. A. P. Swinerton, Danvers, Drap d'Or; C. H. Brown, Danvers, Hubbardston Nonsuch; James Flint, Middleton, Hurlburt; Abijah Fuller, Middleton, Kilham Hill; Peter Wait, Danvers, Ladies' Sweeting; Patrick Tracy, Salem, Porter; B. P. Ware, Marblehead, Pickman's Pippin; T. C. Thurlow, West New-

Digitized by Google

bury, Roxbury Russet and Rhode Island Greening; Peter Wait, Danvers, Seaver's Sweet; J. B. Marston, Danvers, Sweet Baldwin; A. J. Stetson, Danvers, William's Favorite; D. H. Stickney, Groveland, Gravenstein; Francis P. Putnam, Danvers, Hunt's Russet.

For twelve specimens of any other variety,—$1.50 each, to John H. Sears, Danvers, Blue Pearmain; D. R. Parker, Groveland, Northern Spy; J. R. Allen, Manchester, Golden Russets; C. K. Ordway, West Newbury, Vermont Orange; James P. King, Peabody, Cloth of Gold; Ann Collins, Danvers, Fall Harvey; J. W. Trask, Beverly, Baker Sweet; John S. Ives, Salem, Osgood's Favorite; Nathan Bushby, Peabody, Fameuse.

For best collection of twenty varieties,—premium of $8 to J. Henry Hill, Amesbury; fifteen varieties, $6, to Peter Wait, Danvers; ten varieties, $4, to B. P. Ware, Marblehead.

Gratuities were awarded, $3 each, for collections,—to Aaron Low, Essex; Jas. Flint, Middleton; John A. Hoyt, Georgetown; T. K. Bartlett, Newburyport; Geo. W. Taylor, Peabody;—and David W. Low, Gloucester, received honorable mention for his collection not entered for competition.

For the best twenty-four specimens of Apples, a premium of $6 was awarded Samuel Newman, of Peabody, for an apple unknown to fruit-growers present, but was so excellent in size, looks and quality, that the Committee unanimously gave it the name of "Sutton," instead of the name attached, which did not belong to it.

For twenty-four best specimens of any variety of Crab Apple,—to A. P. Blake, Red, $1.50; Wm. E. Kilham, Boxford, Siberian, $1.50; Solomon Fuller, Danvers, Red, $1.00. For the best collection, to J. Henry Hill, Amesbury, $5.

Gratuities of $1 each were awarded to Wm. E. Kilham, Boxford, Golden Russets; James Flint, Middleton, Sudbury Sweet; Aug. Verry, Danvers, President; Andrew Lackey, Haverhill, Porter; T. K. Bartlett, Newburyport, and Mrs. Susan A. Stanwood, Gloucester, Gravensteins.

Digitized by Google

In presenting the above list of premiums and gratuities awarded by your Committee, we wish to state that it was almost impossible that full justice to all should be done, with 558 plates of Apples of such good quality and of so many different varieties, scattered, as they were, among Pears and other fruits, over six long tables, without regard to kinds. Is it not too much to expect, and too much to impose upon this or any committee, in the limited time assigned them? We at least think so, and as Chairman of this Committee, this year's experience added to the experience of last year as Chairman of Committee on Grapes, Peaches, and Assorted Fruits, causes me here and now to protest against the manner of arranging and displaying the fruit upon the tables of the Society, causing such laborious and unsatisfactory work for your Committees, who believe it a necessity that a radical reform should be made in this direction, if it expects faithful service from its committees, and justice dealt out to its exhibitors. We therefore would recommend, what has already been adopted in some societies, the plan of having stands set upon the tables, labelled with the variety or kind of fruit there exhibited, with rods to lay across the table to separate each variety. By having *all* of each variety by themselves so labelled, the kind of fruit and variety can be easily found, and when found the best can be easily selected, as all the plates of that variety are together for comparison; while as the tables are now arranged it is simply impossible for any Committee on Fruits to perform their duties in the time allotted for it, and do justice to all the exhibitors; the labor being so tiresome and tedious that it is a wonder that men are found interested enough to undertake it. We consider that an exhibitor obliged to exhibit fruit in a round dish, or emptied loose upon the table, is not treated with equal fairness with those using the regular plates of the Society; and therefore the Society should provide plates enough of its own for all to use, and we would recommend that it do so before another season. We also think more notice ought to be taken

Digitized by Google

by the Trustees of the reports of their Committees, and where recommendations are made in them they should be noticed and acted upon, even if not adopted. Where such notice is not taken, you add another discouragement to a faithful Committee.

About Apples and their culture, your Committee, through their Chairman, tried to get the experience of every exhibitor, that their statements might be condensed and put in tabular form, that comparisons could be made more readily, and the information desired found separated like grain from its chaff; but the responses made to the questions, *asked of all*, have been so few that these statements are appended to this report for its readers to do their own sifting, which will be found to recommend as the best and most profitable Apples for raising in this County, the Baldwin, Hubbardston Nonsuch, Gravenstein, R. I. Greening, Danvers Winter Sweet, Red Astrachan, Hunt's Russet, Roxbury Russet, Porter, and William's Favorite.

Coal Ashes have been tried by some to their apple trees with very satisfactory results. The reports on Peaches last year, showed that coal ashes around peach trees had proved beneficial. If more experiments were made with coal ashes, we should find more virtue in it for tree and plant life than it has been supposed to contain. Salt has been used in manure with beneficial results to the trees.

We are led to think that pine trees are a great preventive of the ravages of the canker and currant worm, as some orchards with plenty of pines near them are not visited by them. Will our apple-growers notice this, and if such is generally the case, make it known to our Secretary, that experiments may be made with pine boughs as a preventive. Printers' Ink is universally considered the best protector yet known for apple trees. Mathews' protector has proved itself an injury to the trees, in one locality at least, trees having been badly injured by their use.

Digitized by Google

Your Committee found, among the others exhibited, a most excellent apple, very large and handsome, crisp and juicy, with a very fine flavor; it being entirely unknown among the fruit-growers present, who, with the Committee, tested its eating qualities. The name given to it by the exhibitor being considered incorrect, your Committee unanimously decided to name it for one so long identified with and loved by our Society; we therefore gave it the name of the Sutton Apple, and as such it will be extensively cultivated for its worth.

The exhibit of apples by our Society, in size and good looks, was worthy a place second to none we saw at the Centennial Exhibition, though the *average* size of some may have been larger from the States in the prolific West; yet, in beauty and keeping qualities, our apples beat them. Canada made a fine show of apples, and in plums she excelled all competitors, showing that *we* may hope yet to regain here this delicious fruit, ripening between the cherry and the apple, which has been so profitable in this County in the past, and which our Society should offer special inducements to promote their cultivation, that eventually a remedy for the circulio and black knot can be found.

A variety of opinion prevails in regard to the expediency and benefit of root pruning. We have found in ploughing an old orchard, breaking off roots of various sizes, that the trees since have started with fresh vigor in growth, producing much larger apples, with less tendency to drop, than before.

We have also found an excellent preventive from the ravages of ground mice on young trees, to be a couple of shovels full of fresh cow manure put around the butt of the tree late in the season.

We were in hopes to draw out from the experience of so many different fruit-growers individual experiments and results, which would in the aggregate furnish information to our Society of the most valuable kind; but the exhibitors were not so interested in furnishing it as your Committee in

Digitized by Google

seeking it, although we believe it one of the requirements of the Society. However, enough valuable information has been furnished to interest and instruct others, and we trust that hereafter exhibitors, especially those receiving awards, will feel it a pleasant duty to forward to the Chairman of the Committee, soon after the close of the annual exhibition, an unsolicited statement in regard to their exhibits, whether it be fruits or anything else, with items of their own experience which may benefit others, thus adding to the stock of knowledge for the procurement and dissemination of which our Society was formed.

Respectfully submitted for the Committee.

DAVID W. LOW, *Chairman.*

REPORT OF MRS. LUCY J. PRATT, OF DANVERS CENTRE.

DANVERS CENTRE, Oct. 23, 1876.

D. W. LOW, ESQ.:

SIR: We received your circular, and although we have no real report to make, will cheerfully and briefly answer your questions as far as we may be able.

Our orchard is small, only about 34 apple trees, with some 14 varieties. The soil is heavy and black. The trees are nearly all in mowing field, and no particular enriching is used except an occasional top-dressing of good stable manure; no digging round the roots or other means are used,—they are simply let alone.

Some half-dozen of the trees are quite old, but the remainder are young, very fair shape, flourish well, and bear well. Of the starting of it I cannot say, except that no particular pains were taken with it above the average.

To the question of caterpillars and canker-worms I must say, yea, yea.

The pill we prepare for caterpillars is simply a bristle brush on a pole,—give it a few good twists, and step on them.

Digitized by Google

The way we doctor canker-worms is much the same as everywhere, but ours may differ in some respects. We use for protectors, instead of the tarred paper, enamel cloth, such as wagon tops are made of; then spread on the printing ink as often as it requires, being sure, however, to keep it moist all the time. Our neighbors use the paper, and are obliged to renew every year, while our enamel cloth will last two years, and perhaps longer. The cost of course is more in the beginning, but we think will be cheaper in the end. I think no others have used this cloth in our neighborhood, except on my father's and our own trees. But little pruning is done, enough to keep them in pretty good order and shape.

The wormy fruit we keep picked up, and is used for animals.

To the question of the five varieties considered the most profitable, with my limited knowledge I would say, for early, the Astrachan would lead; it is well and favorably known,—good cooking and good looking, as well as good selling, but rather short-lived. Of early fall the Gravenstein is our particular favorite, being a handsome color as well as a beautiful eating apple, and for cooking seems to us to be unsurpassed. We had some 37 bushels from our little orchard this year, and they would sell in market when others would hardly get a passing glance. They are very free bearers, and we think they are THE fall apple.

The Hubbardston is a fine large apple, also a very free bearer. What it lacks in richness of color, it makes up in size; finds a ready market and cooks well. This year ours have been uncommonly good. William's Favorite is as bright an apple as one would wish to see, and is good to eat, too, but wants to be eaten raw. Danvers Sweets are, according to our judgment, good as any, but sweet apples never seem to be very profitable. People do not seem to have any idea what a variety of uses can be made of them in cooking.

Of winter apples we are still old-fashioned enough to cling

Digitized by Google

to the Baldwin, which seems to me to be an apple that one does not tire of as we do of many of the newer sorts.

To speak lastly of a good winter eating apple, none is in such favor in our immediate vicinity as the Hunt Russet,—a smallish russet apple, smooth and fair, and very uniform in size. Will keep *good* until apples come in the summer. This kind cannot be too highly spoken of. They sell as readily as bakers' turnovers at cattle show,—which is saying a good deal for an *apple*. Of the ten varieties, I should say, Astrachans, William's Favorite, Gravensteins, Hubbardstons, Danvers Sweets, Fall Harveys, Sweet Baldwins, Baldwins, Roxbury Russets, Hunt Russets, Greenings.

These seem to us to be the leading kinds, but there are hosts of others with which I am not familiar, and may be better than many of those I have spoken of; but I think I was only asked to tell what I knew, so I think my duty is done.

This is my humble opinion, humbly expressed. For what it is worth take it.

STATEMENT OF FRANCIS S. LOVETT, OF BEVERLY.

I have sixty-five trees. Fifty are young, on light land, with sand or gravelly subsoil. Fifteen old trees are on a rocky piece of land. I have thirteen kinds; have not manured the old trees, but the young orchard I have ploughed, manured, and planted, as much as possible. I came here about ten years ago, found the trees in grass land, growing but very little. Ploughed up and have kept it ploughed up since then. I cannot tell how the orchard was started. The trees have grown finely, and bear well of an extra quality of apple, mostly Baldwins; have not been troubled by canker worms; a few borers in old trees; have had an extra quantity of caterpillars this year, especially this fall. I think the best of way to get rid of them is to kill them morning and evening,

Digitized by Google

when in their web, as soon as they make their appearance on the tree. I do not believe in too close pruning; would prune about the first of June, as the wounds heal better at that time. My wormy apples are fed to cows and pigs; when the apples are fit, into cider.

I should say Early Bough, Red Astrachan, Hubbardston Nonsuch, Gravenstein, Hurlburt, Minister, Ladies' Sweeting, Baldwin, Northern Spy, Roxbury Russet, and Hunt Russet, are the most profitable in this County. The best for the table are Early Bough, William's Favorite, Hubbardston Nonsuch, Gravenstein, and Minister. Early Bough is one of the best sweet apples; good, constant bearer. William's Favorite is a splendid apple, but requires strong soil and high culture to perfect the fruit; it is very apt to be wormy in some locations; it is a good bearer. Hubbardston, a fine apple, and an extra good bearer (with me bears every year); keeps well; I have seen apples of this variety as late as March. Gravenstein, a very fine apple, good bearer, will sell as well or better than most any other variety. Minister, a thin-skinned, tender, acid apple, very nice when well ripened; an enormous bearer; requires very careful handling; will not do to "hand-pick" off the grass, as a great many have done this year. The Northern Spy and Roxbury Russet are both open to objections; both require a strong, rich soil to get fine fruit. A more juicy, better flavored apple than the Northern Spy cannot be found; good for cooking as soon as they are large enough, and will keep till June or July, with a good fresh, brisk flavor. Roxbury Russet, apt to be small and wormy on old trees; still it is so well known that there is no trouble to sell good ones at any time. Hunt Russet is a great bearer; fine, tender, apple, objected to by some as a market apple on account of its size; a fine apple to keep.

Digitized by Google

STATEMENT OF J. M. ALLEN, OF DANVERS.

We have one orchard, consisting of eighty young trees, Baldwins and Danvers Sweetings mostly; and then we have scattering trees of different varieties,—Porters, Ministers, President, Pumpkin Sweets, Northern Spy, and Gravenstein,—amounting in all to about one hundred and thirty trees, twelve of them very old.

The best trees are on light, gravelly soil. They are enriched in the spring with common barn manure. Our best Baldwin apples this year were enriched with coal ashes; some of them weighed three-quarters of a pound. We are not troubled with apple worms to any account; we prune in April, and pull all the suckers we can by hand. We feed out the wind-fall sweetings, and make the sour ones into cider for vinegar. *We don't drink cider.*

For market, we consider Gravensteins as good, or better, than any other fall apple, and Baldwins for winter; though for my own eating I prefer Greenings the first part of the winter. We have this year ninety barrels of very large apples, twelve of which are Danvers Sweetings. The Baldwins are uncommonly large and fair, although I have noticed that they are not so red as the smaller variety. We think if the Committee on Fruit could have seen our orchard, we should have had a premium.

STATEMENT OF ABIJAH FULLER, OF MIDDLETON.

On my farm I have about one hundred apple trees of about a dozen different kinds, the principal of which are Baldwins, Danvers Winter Sweet, Hubbardston Nonsuch, Kilham Hill, Rhode Island Greening, Harveys, both summer and fall. My trees are mostly young, and I do not enrich them only by ploughing among them. The soil in my orchard is rather gravelly. I generally prune my trees in winter or very early spring. I am troubled but very little with canker worms,—

Digitized by Google

seldom see them,—and only to a small degree with caterpillars, and these I soon rid myself of by clearing their nests from any trees. My wind-fall apples I usually make cider of. My orchard I think bears well, in comparison with my neighbors. I generally have a very full crop the bearing year, and enough for family use the odd year. As for the particular kind of apple that is most profitable for me, I think the Kilham Hill is one of the best fall apples. Mine are great bearers, as I always have some every year. They have nothing done for them but pruning, as they are in a gravelly pasture by themselves, on a side hill. I cannot so much as plough among them, and as I always have good fair apples and a good crop, I think gravel and sandy soil best suited to that particular apple.

STATEMENT OF PETER WAIT, OF DANVERS.

In answer to the questions put to me by the Committee, I will say that I have about forty apple trees and twenty or more kinds of apples. My soil is mostly gravelly, with a strong clay sub-soil. In regard to enriching, I think one of the best fertilizers is glue dross. I have used much tan-yard waste, such as old tan, lime and hair, but to quicken and warm up my trees, I use night manure. I apply it in the fall as a top dressing.

My trees are mostly thirty years old, and upwards. In regard to planting, I made use of no science, but simply dug a hole sufficient to receive the roots, without manure or any previous preparation. My treatment ever since has been top-dressing, keeping them clean and well pruned. The borers have been quite a trouble to me. I consider them the most destructive enemy to the apple-trees we have to contend with. The best treatment for them is a free use of soap about the time they hatch.

Digitized by Google

After using Mathews' protector for two or three seasons, I have resorted again to printers' ink for the destruction of the canker worms. The caterpillar with me has almost become extinct. Cluster worms and fall caterpillars are easy to destroy.

I prune my trees any time when convenient, except large limbs, which I cut generally in the fall or early winter. I keep my trees well pruned, taking off all useless twigs and spurs. Wormy fruit I collect some three or four times in the course of the season. I sell the best for what I can get, and what is not sold or given away to those that have none, is thrown into the hog-pen.

The best apples for cultivation, all things considered, I give the following: Baldwins, Rhode Island Greenings, Danvers Sweet, Seaver Sweet, Fall Harvey, Sweet Baldwin, Hunt Russet, Roxbury Russet, Northern Spy, Garden Apple, Hubbardston Nonsuch, Ben. Apple, Gravenstein, and Porter.

For table use I give in order as they come: Early Harvest, Red Astrachan, Porter, Gravenstein, Fall Harvey, Minister, Hubbardston, Baldwins, Greenings, and Hunt Russet.

I will not speak of the peculiarities of any except the Garden Apple. This apple seems to be but little known, yet I knew it when a boy, but, like the Hunt Russet, it was kept in obscurity. I believe I was the first to introduce the Hunt Russet into the nursery. In its season the Garden Apple is the best for culinary purposes, growing very large and fair, and a great bearer. They come early into use, and last until Thanksgiving. It is highly worthy of cultivation, and should be encouraged by our Society.

I think our premium list ought to be revised, both apple and pear, dropping some and adding others.

Digitized by Google

STATEMENT OF GEORGE W. TAYLOR, OF WEST PEABODY.

PEABODY, Oct. 16th, 1876.

D. W. LOW, ESQ.,

Sir:—Your communication of Oct. 11th arrived, and as you request, I will take this early opportunity to answer some of your inquiries. In the first place, I have some three hundred apple trees on my premises, among which there are about thirty varieties. My soil is a deep loam, rather rocky, with many large bowlders. The subsoil is a gravelly loam, which is underlaid by a pan of clay gravel that is almost as hard as the stone itself. A smart blow with the pick cannot penetrate it more than an inch or so. My land is not very apt to suffer much from drought. I have not been in the habit of applying any special manures to my orchard or among the isolated trees that are scattered over my farm.

When I plough up the ground among the trees, I usually plant some crop, such as corn, cornfodder, or potatoes, for a year or two, then lay down to grass. All the manure my apple trees ever get is applied when my land is under the plough. Before leaving this portion of the subject, I will add my word in favor of mulching among trees. Too much, in my opinion, cannot be said in favor of the practice, and no work in the orchard will repay the owner so large a percentage on time and expense. Any old rubbish that is always accumulating about a farm will answer, yet we prefer old hay or weeds. Any of the following substances might be employed for this purpose: potato vines, cornstalks, woodwax, or old tan. And I have known the pomace from the cider press to succeed admirably. One of my neighbors has used this for several years as a mulch, and I have noticed that his apple crop has been much improved, both as to size and quantity, where he liberally mulched his trees. I knew an instance, where the ground under quite a large apple tree was covered over with slabs for several years, that it produced enormous crops of fruit much larger and fairer than that produced before the slabs were piled under the tree.

Digitized by Google

There are trees on my place, ranging from those but a few years set, up to the old hoary-head, that must have stood the wear of time for a century at least. There is a young orchard of about seventy trees, that was set out in the years from 1855 to 1860. These trees were purchased from the proprietor of a nursery adjoining the lot upon which my orchard stands. This orchard has been cropped ever since being set out, either with hoed crops or grass.

I have never been bothered much with the borer or caterpillar. Either can easily be gotten rid of, if proper care is taken at the proper time. To prevent the borer, it is of the utmost importance to keep all the grass and weeds removed from near the trunk of the trees, thereby destroying all chance for a safe harbor for the embryo borer. Caterpillars can be destroyed by two or three thorough cleanings of the trees. But canker worms are worse than all the other enemies of the apple combined. No remedy that is within the reach of farmers has as yet been discovered that will effectually keep them down. The patent tree protectors are much too costly, and require too much tending to ever become of much benefit to the fruit grower. They may do well in small private gardens, where the owner has an eye on them several times a day. Tar, or printer's ink, applied to the trunk of the tree, is the cheapest, most effectual, and surest method that can be adopted to rid the apple orchard of the scourge. I am of opinion that it would be of decided advantage to all concerned if one-half at least of all our apple trees were cut down and removed. I believe that an apple tree lasts and bears fruit with any profit to the owner for only one generation. Even if they do live along and produce, it is only as an unsightly and hollow-hearted nuisance, where grubs and vermin of all kinds seek a home to breed their kind, and from which to sally forth and attack the young orchards. Better far it is to remove the old wornout trees, and take better care of the young and vigorous.

Digitized by Google

As to pruning, a little each year is the best; thereby avoiding the necessity of removing large branches, which leave wounds that it takes years to heal over. As to time, let the grower be guided by his own inclinations; 'tis better at any time of year than not to do it at all; still I am satisfied that the last of May or early in June is a good time to perform the operation. This, however, has a serious objection; it is the season when farmers are most busy, and can ill afford the time to attend to it.

Soon after the leaves of the blossoms have fallen, the fruit commences to form and set on the tree. One after another of the embryo fruit becomes crowded out and falls to the ground; this is continued from the time when the fruit first commences to grow till the last apple is plucked from the tree. A great deal of this imperfect fruit is fit for no purpose whatever, and lies and decays on the ground where it falls; later in the season the fruit grows larger, and is gathered up and fed to the cows or to hogs. Some benefit is claimed, even if the flow of milk is not increased; the cows seem to have such a love for apples that they will not content themselves to feed until they have visited each tree within their reach and secured every apple that the breeze may have caused to fall. Hogs are also passionately fond of apples, especially the sweet varieties, and have in some instances been fed for weeks on little else, and still have thriven well.

The ten varieties which have proved themselves to be entitled to the rank of best in Essex County are the Baldwin, Rhode Island Greening, Hunt Russet, Gravenstein, Red Astrachan, Hurlburt, Porter, Hubbardston Nonsuch, Danvers Winter Sweet, and William's Favorite. These ten varieties embrace those which have proved themselves the most prolific and constant bearers, and whose fruit is the most sought for by those who have to buy. There are, however, other kinds, which might be added, that rank high, and which we would scarcely be willing to omit; yet we are constrained

Digitized by Google

to say that for profit our belief is that a few varieties of those kinds which are most prolific and reliable, well cared for, would be of far more profit to the owner than an increased number of sorts.

A gentleman of my acquaintance who has given his attention to the cultivation of fruit for the last sixty years, tells me that he would sooner have less, than more than ten varieties, for any purpose either for pleasure or profit.

For table fruits, we should say the five best would be, William's Favorite, Gravenstein, Hubbardston Nonsuch, Baldwin, and Hunt Russet. I have named them in the order that they are ripe and ready for use. We would gladly add the name of the Hurlburt, Eustis, Drap d' Or, Sweet Baldwin, Ramsdale's Sweet, and Gilliflower, but of the hundreds of varieties to select from, we become bewildered, and are quite willing to leave it to each person to select such as suits his or her taste, well knowing that the most fastidious can be suited. All of the varieties I have named are abundant bearers, the Baldwin, Gravenstein, Hunt Russet, and Hubbardston Nonsuch, particularly so.

The Baldwin I have placed at the head of all the varieties. We are free to grant it the title of King of all the apples, for our soil and climate. While the other sorts some of them contest the title and vie with it for the honors of royalty, still the Baldwin wears the crown, for productiveness, long-keeping, general uses, and for market.

While all the apple-trees are alike in one sense, and have the same nature, the ash of the wood and foliage being identical, and scarcely differing in the most minute particular, still, like men and animals, each variety seems to have eccentricities and peculiarities of its own. Some, like the maple, lift high their erect and shapely branches. Others, like the oak, spread wide their limbs, and shade the soil for rods around. Others still, are crooked and gnarled, suggestive of sour and crabbed fruit. Some are sleek and smooth of limb, while others wear a rough and scaly coat, but boast of blossoms

Digitized by Google

fair, and luscious fruit. Some have pendulous branches, like the willow, and their fruit hangs swinging with every breeze, and joyfully seems to pass the time from summer to harvest. The fruit spurs of some are stiff and strong, and the fruit adheres closely to the branches and remains stationary till suddenly disturbed. All of these different habits or peculiarities are so marked and distinct, that the cultivator can easily determine by the tree just what kind of fruit it bears, and in his selection of trees in the nursery, can decide the different varieties by the color of foliage, and general habits of growth.

In the above treatise I have endeavored to answer your questions in as detailed a manner as I could possibly, and do it briefly. There is much that might be said and written in favor of the cultivation of the apple; there is no fruit that so largely enters into all the different uses to which we are in the habit of placing fruit. For culinary purposes the apple is far ahead of all fruits; for the table it is not surpassed; for preserves and drying, no other fruit is so universally used. In fact the apple is our constant friend; from July to July again we have it on our tables, and with us it is a joy forever.

Year after year we are greeted with the rich abundance of our orchards. When the trees of the Old Bay State fail to give us returns, we turn to the Empire State and the great West for a supply, and seldom look to them in vain. If the trees in one section of our country fail to produce an abundant crop, those of other sections fail not, and transportation from one place to another makes the supply universal, and distributes the luxury with a balance as just as the wants of demand and supply call for.

Of all the fruits by man possessed,
We deem the Apple much the best.
Year after year on crops depend,
The Apple proves a constant friend.
Both food and drink in it combined,
These, for the body and the mind,
Throughout our land, the East, the West,
Pronounce it first, pronounce it best.

Digitized by Google

STATEMENT OF T. C. THURLOW, OF WEST NEWBURY.

To answer your inquiries in brief,—we have now about eight hundred apple trees, and over twenty-five varieties. The soil is generally a good gravelly loam, with a sandy or gravelly subsoil. A very large proportion are Baldwins,—budded trees taken from our nursery, and planted in orchard rows in 1850 to 1855. The orchards were for several years cultivated,—two or three times planted with corn or potatoes,—but for the last sixteen or seventeen years have been down to *grass*, and for ten years or more pastured with *sheep*. The trees have not been enriched in any other way, except a small portion of the orchard, which has been partially cultivated, and two or three dressings of barn-yard manure ploughed in.

Occasionally we see a borer, which is or ought to be immediately dug out, or killed with a pointed wire. When our trees were young, they were washed every year, in June, with soft-soap and water, (half-and-half,) which killed all the borers' eggs, (if there were any,) and was otherwise beneficial to the trees. Of late years this has been neglected, hence the increase of the borer.

We have been troubled with canker worms since 1860. More than half our trees were entirely *ruined* by them within five or six years of their first appearance, and our apple crop reduced to merely nothing,—from eight hundred barrels a year before their appearance, to less than *a single barrel* of all kinds six or seven years afterwards,—and our trees reduced from four thousand in 1860 to eight hundred at the present time; although they were planted much too thickly at the commencement. After trying various remedies, we have decided that *printers' ink* (applied fall and spring) is the cheapest and most effectual. Our trees this year produced over nine hundred barrels of *good* merchantable apples. The tent caterpillar is at all times very troublesome, but can easily be taken off when small with the hand or a stiff conical

Digitized by Google

brush. No other insects to any extent trouble our apple-trees. The *field-mice* did considerable damage to our young trees during one or two winters, but care should be taken not to allow grass or other rubbish to accumulate around the trees, and thus afford them a shelter.

We try to prune our trees a *little* every winter; should prefer the mild weather during February and March. For young orchard or nursery trees, would trim in June. The wormy fruit that drops is generally disposed of by the sheep and other animals.

For the ten most *profitable* apples for this County, I would name the following, (the most valuable first): Baldwin, Hubbardston Nonsuch, Roxbury Russet, (for heavy land,) Hunt Russet, King of Tompkins County, R. I. Greening, Red Astrachan, Gravenstein, Porter, Danvers Winter Sweet.

For five best varieties for *table use*, I would suggest William's Favorite, Large Yellow Bough, Gravenstein, Hunt Russet, and King of Tompkins Co. They are all good bearers. There are probably many other excellent varieties that would do well in this County, but these are old and tried, and no one would go very far astray in planting these. Some of these will do well on a light soil with very little cultivation, while others require a rich soil and very high cultivation.

STATEMENT OF A GENTLEMAN OF GROVELAND.

I have perhaps fifty apple trees, consisting of Northern Spy, Hubbardston Nonsuch, Baldwin and Roxbury Russets, for winter use, and Gravenstein and Porter for the fall, growing on a variety of soil, with a subsoil of slate or gravel, with no especial pains to enrich, but growing upon the natural soil. My trees are most of them thirty or more years old; some of them, however, have been grafted within ten years, and upon these I have had the best crops.

Digitized by Google

While all around me the canker worm has been busy, I have as yet escaped, but until *this* year have had plenty of caterpillars, but consider them of but little account and easily managed when compared to the canker worm. I know of no way to get rid of the borer or the latter worm when once they favor you with a call.

Upon the question of pruning, I know there exists a variety of opinions. I always prune when I see the need, without regard to time of year, preferring to do so when the tree is bare; if done in the spring or summer, when the tree is full of sap, very much care must be used to prevent the bark from being injured.

You ask what disposition I make of the wormy fruit that drops. The most profitable use I can make of such apples is to sell them to some neighbor who appreciates early made cider.

Of the five best varieties, for this part of the County at least, I would name first the Gravenstein, then the Northern Spy, Baldwin, Roxbury and Hunt Russet. I am of the opinion that Northern Essex is the most favorable section to be found for the first named variety. I have visited many times the exhibitions of the Mass. Horticultural Society, and very many of the County exhibitions in various parts of the State, also the State fairs of New Hampshire and Maine, and have never seen so good specimens as are here grown. My trees of this variety are upon grafts say from six to ten years old, put into vigorous trees, which bore profusely this year bushels of apples that would measure twelve inches in circumference each.

The Northern Spy, for a late apple, is my favorite. I had been fearful this variety would be a failure with us, and some parties had begun to graft them over on account of their slowness in coming into bearing, and the fruit rotting on the trees, their ill shape, their lateness in putting out in the spring; but this year they have redeemed themselves, and

Digitized by Google

take the first rank, have all produced heavy crops of choice apples, and at this date outsell any other variety by fifty cents to a dollar a barrel.

I have written this much in haste; regret not having more time. You can make what use of it you desire, only I would ask you to withhold the name of the author, if any part should go into the report.

STATEMENT OF R. C. WARE, FOR B. P. WARE, OF MARBLEHEAD.

My father (B. P. Ware) being away for a couple of weeks, I will answer your questions concerning apples, as I am pretty familiar with those my father raises.

Have three hundred and thirty trees, of twenty-six different kinds. Soil loam, with gravelly subsoil and clay below the gravel. Trees manured with compost in the spring. They are treated very much like other crops. Trees are from fifteen to fifty years old. The young orchard was started by setting the young trees twenty feet apart; the trees were budded when two years old. The orchard has been cultivated ever since the trees were set out, and the trees severely pruned, with the hope of keeping them small and of bringing them into early bearing. The trees, however, wouldn't be kept small, and are now so thick that nearly every other tree will have to be removed this year.

Very little trouble from borers. They are sometimes hunted with a pliable stick or wire. Caterpillars are kept down by picking off the young nests. Canker worms are kept off by tarred paper and printer's ink, applied fall and spring; otherwise the leaves would be all eaten off the trees by these worms. The trees are pruned nearly every April. No special care is taken of wormy fruit that drops.

Baldwin, Pickman Pippin, Drap d'Or, Roxbury Russet, Danvers Winter Sweet, Sweet Baldwin, Greening, Early

Digitized by Google

Williams, Gravenstein, Porter, Shepard's Sweeting, Kilham Hill, Peck's Pleasant, Phillips' Pippin, and Lyscom, are all good varieties; but Drap d'Or, Pickman Pippin, Baldwin, Early Williams, Roxbury Russet, and Sweet Baldwin, are the most profitable to raise for market.

For table, Early Williams, Porter, Gravenstein, Drap d'Or, Lyscom, Kilham Hill, Baldwin, and Roxbury Russet, give a constant and excellent supply from August 15 to June 1st. The Drap d'Or is a very abundant bearer, the others quite good. The Lyscom and Kilham Hill are of little value, except for table, and are not profitable for market. The Pickman Pippin is considered the best cooking apple in the market, by those who know it. It is very tart, high flavored, fine grained, and of good size; it keeps until February. The trees come into bearing late, but bear pretty well after they begin. The Drap d'Or is a very large fall apple, tart, but excellent for eating as well as cooking. It keeps well until the middle of November. Trees come into bearing young, and bear very heavily. As the trees grow older, the apples do not grow quite so large.

I will add the following remarks as the result of my observation: Trees not in an orchard seldom bear. Trees that do not bear good apples are worse than useless. There are only a few varieties that pay. It is better to raise only those varieties that do pay. Where there are only a few trees of a kind, there are not enough of that kind of apples raised to pay for marketing, consequently they are often wasted. An apple that is unknown in the market is hard to sell. Neglected trees are of no use.

STATEMENT OF SAMUEL NEWMAN, OF PEABODY.

[Manuscript Lost.]

Mr. Newman speaks of the apples, called the Sutton by the committee, as having been raised on a graft from the original tree grown in Salem, which produces even larger apples

Digitized by Google

than were shown at Danvers. They keep until November, and are, as he says, "most excellent for sauce." Your committee know how nice they were for eating. The tree is a thrifty grower and good bearer. The tree, he thinks, was bought from a New York nursery, for "twenty ounce" apple, some years ago. Any one interested, will find Mr. Newman ready to give information on the subject.

D. W. Low, *Chairman.*

STATEMENT OF J. B. MARSTON, OF DANVERS.

With regard to the culture of apples, I would say that I have in my garden a few apple trees of about fifteen years' growth. I have but four different kinds. The soil is well fertilized. The subsoil is loam. With regard to the treatment of young trees, I believe in thorough tilling of the soil, keeping the ground light about the roots, and free from weeds. To fertilize the soil, I use a compost of animal manure and decayed vegetation, together with a liberal share of superphosphate of lime and wood ashes. This is applied to the land in planting time, in the hills and rows, with a portion around the trees, dug in with a fork. My plan of preparing the manure is to fork over the compost heap, in early spring, adding by degrees the superphosphate and ashes, until the whole is well mixed. Then leaving it awhile to permeate and heat through, it becomes in good condition for use.

It is of the first importance, in my opinion, in the cultivation of apple trees, to take care of the roots. It is well to look after and destroy the insects; but if the roots are neglected, I think that we shall find worms more plenty than fruit. I don't believe in the way that some have of tearing up the roots with a plough. It is better, I think, to keep the ground light by digging around the trees with a fork.

As for the insects, I am not much troubled with borers of any kind; when I find any in my apple trees, I choke them with hard soap. The caterpillars are exorcised on the point

Digitized by Google

of a long pole, and the canker worms are treated to a coat of tar. My trees are pruned (but not excessively) in the month of May; the cuts on the larger branches I cover with paint. My wormy fruit I bury deep in the ground away from the trees. With regard to the choice of apples, I think that must depend principally on the taste and fancy peculiar to each individual, and among the great variety of apples produced, it seems as though every one ought to be gratified. It is well, perhaps, that personal tastes and fancies differ, as otherwise some things now considered very choice would be entirely neglected.

STATEMENT OF H. ALLEY, OF WENHAM.

I am not a great fruit grower, but I am interested in such things, and am watching the markets as to prices, quantity, and quality of the different kinds of fruit, and on this account, in making a reply to your questions in regard to apples, I will say that I have twenty apple trees—seven Baldwins, two Gravensteins, two Porters, two Hubbardston, two Danvers Sweet, two Red Astrachans, two Northern Spy, and one other, a worthless kind. For profit, and all things considered, I would select the following five varieties: Red Astrachan, Gravenstein, Hubbardston, Baldwins, and Porters. All the above kinds do well in this part of the county. Have been troubled with canker worms, but by the use of tar paper and printer's ink, they were nearly exterminated.

I prune all my trees during the winter from the middle of January to the first of March. Had two Porter trees that never gave me over one barrel each until I pruned them, then they gave me three barrels each, of as fine fruit as ever grew in the county.

The windfalls and wormy apples are sent to the cider mill. We always found a ready sale for our Red Astrachans and Gravensteins, and at prices treble those of other varieties,

Digitized by Google

and that was so this year, notwithstanding the large crop of apples of all kinds.

To make up the ten best varieties, we would add the following to those above named: Williams, R. I. Greenings, Hunt Russet, Roxbury Russet, and Danvers Sweet.

The Williams Apple is but little known in this county, but in the vicinity of Boston they are grown in considerable quantities, and command high prices. In 1875 they were sold for $5 per bushel. I intend to change my Northern Spy trees and some others to the Williams. What little dressing we use is barnyard manure. The abovenamed varieties are all great bearers.

STATEMENT OF JAMES FLINT, OF MIDDLETON.

I have about five hundred apple-trees; about one hundred are old ones, that were on the place when I took it; the rest I have set myself. I have over forty different kinds, which are more kinds than I wish I had. I do not think it a good plan to have so many varieties. I have in my orchard loam and gravelly subsoil, enriched with barnyard manure in the spring of the year. I commenced by setting some over a hundred, about thirty-two years ago, and have set some occasionally since, until within ten or fifteen years. I ploughed the land deep before setting, by going twice in the same furrow, and digging the holes large; and keeping the ground cultivated, and washing occasionally, when small, with potash water.

I am troubled some with the borer, not with the canker worm or caterpillar, or much with any other worm. The winters have hurt my trees more than anything else. Take the borer in season with a knife and wire, and you can soon fix him. I trim my trees late in the fall or early winter, cutting off the dead wood and limbs that cross each other. I have found by sad experience that it is injurious to trim after the sap begins to flow. The last of June may be as good a

Digitized by Google

time, but we are apt to be more busy, and in fields that are in grass it is not so convenient. The wormy fruit I sell or make into cider.

What ten or more varieties of apples to cultivate in this County?—1, the Red Astrachan,—an early variety, a good bearer, and good for market; 2, William's Favorite,—a very showy apple, a good bearer, and finds ready market; 3, Gravenstein,—a very superior apple, but not a great bearer, or very saleable fruit; 4, Porter,—profitable for cultivation, and a good bearer; 5, Hubbardston,—a very superior apple, a great bearer, and in eating just before the Baldwin, one of the best; 6, Hurlburt,—a very good apple, and worthy of extensive cultivation, resembling the Gravenstein; 7,—Danvers Sweet,—a very good sweet apple, though it water-cores in some soils; 8, Sudbury Sweet,—a very superior apple for baking, or boiled in molasses water, after paring and taking out the cores; I always found a ready market for it; 9, Edwards' Russet,—a very good apple, large size, and a great bearer; it bears every year with me; 10, Baldwin,—a very good apple, and will recommend itself, though I think it affected by cold winters more than almost any other variety; 11, Ramsdell Sweet,—a very showy apple, resembling the William's Favorite; a very great bearer, good eating, and good for market; 12, Rhode Island Greening,—a very saleable fruit; I think it requires a very strong soil; it does not bear as well with me as I should like; 13, Fall Harvey,—a good apple for cooking or table, and of excellent flavor where the soil suits it; I find a great difference in that respect; 14, Ladies' Sweet,—a very good apple, and valuable for its late keeping; a great bearer.

The five or more varieties which are best for the table, are, William's Favorite, Porter, Gravenstein, Hubbardston, Hurlburt, and Baldwin. I find that to raise good apples they must be well taken care of, and the better they are cultivated the better apples you will get; and I have learned by my own experience, and that of my neighbors, not to sow small

Digitized by Google

grains among them, and allow them to ripen among them. It is very injurious, especially when they are young, rye in particular. I had an orchard that I wanted to lay down to grass, and I sowed oats, calculating to cut green for fodder. It so happened that I did not cut them until ripe; the trees were not very large; the bark on the south side was sun-scalded, so that it killed a good many, and the rest were not good for much.

As to grafting, I have had considerable experience, both for myself and others, and I find that sour apple grafts put into sweet stocks, are not apt to do so well as those of a sweet or a milder flavor. I think it best to only take those limbs you want to graft, so as to make a well-balanced head, and leave the rest on the tree till another year. I think it best not to take off too much at once.

STATEMENT OF JOHN H. SEARS, OF DANVERS.

I have two hundred and fifty apple-trees under cultivation, and fifty more (most of which are grafted) in pasture land, (fifteen varieties.) Our soil is from six to fifteen inches dark loam, underlaid by yellow loam of from one to four feet in depth. The next lower deposit is a very hard loamy gravel. This soil may be considered as the general form of that of North Danvers. Young trees. in my experience, should be kept under cultivation for twelve or fifteen years, for the plough will keep the surface roots thinned out, and those directed down in the subsoil, which are its principal source of nourishment during our seasons of drought, grow deeper and stronger, giving a firmer support to resist the power of the high winds, which will, if the roots are more on the surface, so rock the tree as to displace the roots, and, as is often the case, overturn it. For old trees, once in five years is often enough to turn the sod over, and if it is well cultivated the first year in corn, the second to potatoes, the

Digitized by Google

third to Hungarian and grass seed, which crops can in most orchards be successfully cultivated, it will be in good condition as far as the roots are concerned, to reward the owner with good crops.

Our trees are nearly all in bearing. One orchard of one hundred trees, which, when planted, in May, 1858, were one inch in diameter, New York trees, are now some of them eight inches in diameter. The soil is rich loam, but very shallow, the ledges often coming to the surface. Borers, caterpillars, and canker worms destroy the beauty of most orchards in this neighborhood. I dig out the borers with a sharp knife, or probe for them with a piece of small-sized wire, partly hooked at the end, whenever I see any signs of them. Caterpillars are quickest destroyed by gathering their eggs after the leaves have fallen; as they are usually on the ends of the branches they are easily detected, and after I gather them I burn them up.

The canker-worm is the worst pest to deal with. She must be kept down from the trees, for she will deposit her eggs under the loose scales of bark, either on the body or limbs of the tree, and so many of them that it is impossible to destroy them. I have tried several methods to keep the grubs from going up, and I think that a strip of tarred paper tacked around the body of the tree, and the preparation called printers' ink thinned with petroleum put on with a brush, if attended to, will destroy as many grubs, and with less damage to the tree, than any other mode.

In pruning trees I take off a limb at any season of the year when I see a chance to improve the shape of the tree, or when one limb interferes with another. If trees have not been pruned gradually as they have grown, and want much wood removed at once, I usually take the month of March, as the dry winds at that time will dry the cut wood, causing it to shrink, and affording a good chance to heal over. Our wormy windfalls we grind and turn to vinegar, or throw them to the hogs.

Digitized by Google

I consider Tompkins County King, Baldwin, R. I. Greening, Hubbardston Nonsuch, Roxbury Russet, Danvers Sweet, Tolman's Sweet, Gravenstein, Red Astrachan, William's Favorite, and the Gilliflower,—eleven excellent varieties, both as good bearers and fine fruit. As a late winter apple, Tompkins County King stands in advance for the table; as a late fall, Hubbardston Nonsuch and Tolman's Sweet; as an early fall, William's Favorite or Gravenstein; and for an early apple, Gilliflower or Red Astrachan. The Gravenstein in this section, when grafted on a young stock, is apt to be a short-lived tree, and on the other hand, when grafted on limbs of large trees, it continues healthy many years. The Blue Pearmain, though a fine-flavored apple, soon commences to decay.

PEACHES, GRAPES AND ASSORTED FRUIT.

The Committee report as follows;—

PEACHES.

For best nine specimens of Whiteflesh, Solomon Fuller, Danvers, $2; best nine specimens of Yellowflesh, E. F. Webster, Haverhill, $2; best nine specimens Essex Co. Seedling, Josiah Newhall, Lynnfield, $2.

Gratuities of $1.50 each were awarded to J. Moore, Peabody, and J. S. Ives, Salem, for "Ives's Blood."

GRAPES.

Premiums of $3 each were awarded to Rufus Goodwin, Haverhill, for Best Concord and Hartford; A. J. Hubbard, Peabody, Isabella; James Lowrie, Danvers, Delaware and Iona; Geo. W. Gage, Methuen, Creveling; L. K. Pemberton, Groveland, Clinton; Franklin Upton, Danvers, Allen's Hybrid; James Lowrie, Danvers, Diana; E. P. Richardson, Lawrence, Adirondac; F. Upton, Danvers, Israella and Eu-

Digitized by Google

melan; Geo. W. Gage, Methuen, Rogers, No. 3; J. W. Ropes, Danvers, Rogers No. 4; E. P. Richardson, Lawrence, Rogers No. 15; Geo. W. Taylor, Peabody, Rogers No. 19; F. Upton, Danvers, the Salem.

For best collection of Cold House Grapes, W. H. Brown, Peabody, $6; second best collection, R. D. Rogers, Peabody, $4; third best collection, Aaron Low, Essex, $3.

Best collection ten varieties of Grapes, J. W. Ropes, Danvers, $7.

For best Basket of Assorted Fruit, Peter Wait, Danvers, 4; second best, Aaron Low, Essex, $3.

For the best specimens of other varieties deemed worthy by the Committee, Geo. W. Gage, Methuen, for Worden Seedling and Cottage, $1.50 each; D. H. Stickney, Groveland, Seedling, $1.50; F. Upton, Danvers, Croton, $1.50.

Gratuities of $2 each were awarded to Geo. W. Taylor, Peabody, Grapes; J. Q. A. Batchelder, Danvers.

Gratuity of $1.50 was awarded to B. S. Perkins, Danvers, Grapes.

Gratuities of $1 each were awarded to H. B. Learnard, Danvers, Plums; Peter Wait, Danvers, Quinces; T. K. Leach, Topsfield, Grapes; Edwin Verry, Salem; Solomon Fuller, J. Silvester, and Peter Wait, Danvers; Franklin Stiles, Middleton; David W. Low, Gloucester, Basket Wild Fruit.

Gratuities of .50 were awarded to Benj. Russell and J. W. Ropes, Danvers, Quinces; Wm. Huff, Newburyport, Grapes; Chas. E. Smith, Danversport, Grapes; Henry Fowler, N. Cross, J. L. Smart, and Albert Berry, Danvers; J. Stimpson, Gloucester; Thos. Capers, Newburyport.

T. C. Thurlow, James Marsh,—*Committee.*

Digitized by Google

FLOWERS.

The following premiums and gratuities are awarded :—

Mrs. L. P. Weston, Danvers, best pair Parlor Bouquets, $3; Mrs. J. Henry Hill, Amesbury, best pair Hand Bouquets, $2; Mrs. L. P. Weston, Danvers, best Floral Design, $2; Thomas Capers, Newburyport, best dish Cut Flowers, $2; John Mitchell, Beverly, best twelve Dahlias, Miss S. P. Towne, Middleton, best twelve Petunias; J. Mitchell, Beverly, best twelve Pansies, Miss S. P. Towne, Middleton, best twelve Phlox, Mrs. Mary C. Tapley, Danvers, best twelve Verbenas, each $1; Mrs. C. N. Horner, Georgetown, Native Flowers, first premium, $2; Mrs. M. E. Fuller, Middleton, Native Flowers, second premium, $1; J. J. H. Gregory, Marblehead, best general display, first premium, $4; Mrs. J. Henry Hill, Amesbury, general display, second premium, $1; J. J. H. Gregory, Marblehead, best Basket Flowers, $1; Francis Putnam, Salem, Gladiolus, first premium, $3; Mrs. J. Henry Hill, Amesbury, Gladiolus, second premium, $1.50; T. Capers, Newburyport, Parlor Bouquet, second premium, $1.

Gratuities of fifty cents each were awarded to,—Mrs. W. L. Weston, Danvers, Orange Tree; Mrs. Augustus Putnam, Danvers, Japonica; A. S. Page, Danvers, Wild Flowers; Mrs. M. E. Fuller, Middleton, Winter Bouquets; Mrs. R. Hart, Danvers, Flowers; Mrs. Wm. L. Weston, Danvers, Coleci; John Webster, Bouquet; Mrs. Melinda Webster, Bouquet; Miss E. Webster, Bouquet; Mrs. J. Q. A. Batchelder, Danvers, Amarillis; Mrs. E. M. Low, Gloucester, Lilies and Asters; Mrs. Mary Hawkes, Asters; Miss N. M. Putnam, Wild Flowers; Mrs. D. W. Doherty, Danvers, Cactus; Mrs. A. Baker, Danvers, Cactus; Ruth P. Fowle, Danvers, Bouquet; Mrs. J. Southwick, Danvers, Flowers; Bertie Allen, Danvers, Sunflower; Wallace Legro, Danvers, Bouquet; Horace Walton, Danvers, Flowers; Miss Bertha F.

Digitized by Google

Perkins, Danvers, Bouquet; Mrs. Louisa P. Hood, Danvers, Bouquet; Elizabeth P. Peabody, Bouquet; Hannah P. Cross, Danvers, Flowers; Geo. Mayhew, Danvers, Basket Flowers; Mrs. H. A. Wiggin, Danvers, Abutilon; Mrs. C. H. Perry, Danvers, Flowers; Carrie P. Perry, Danvers, Wild Flowers; Serena P. Towne, Middleton, Pansies, Verbenas, and Bouquets; Sarah E. Marston, Danvers, Cut Flowers; Elbridge Trask, Danvers, Fig Tree; Frank Lord, Danvers, Bouquet; Mrs. D. W. Low, Gloucester, Flowers; Mrs. S. E. Jones, Bouquet; David Mighill, Georgetown, Bouquet; Mrs. D. R. Parker, Groveland, Verbenas; Andrew Nichols, Danvers, Century Plant; Mrs. M. E. Goodwin, Lynn, Acacia; Mrs. D. R. Parker, Groveland, Petunia; Mrs. J. H. Hill, Amesbury, Petunia; Mrs. J. A. Hoyt, Georgetown, Pansies; Fred. W. Ladd, Groveland, Flowers,; Mrs. A. R. Rundlett, Danvers, Bouquet; Miss E. F. Hill, Peabody, Dahlia; Lillie Brown, Pinks; Addie Hood, Pansies; Belle Waldron, Salem, Nasturtiums; Mrs. E. T. Waldron, Danvers, Wild Flowers; John Mitchell, Beverly, Geraniums; Mrs. B. McLoud, Bouquet; Mrs. S. B. Edwards, Beverly, Bouquet; E. P. Ropes, Danvers, Phlox; M. Waite, Danvers, Verbenas; John Sears, Danvers, Wild Flowers; Sarah Ewell, Danvers, Bouquet; Mrs. Legro, Danvers, Wreath; Sarah A. Cross, Danvers, Bouquet; Sarah E. Fuller, Danvers, Bouquet; Mrs. Wm. B. Tyler, Bouquet; C. F. Newhall, Verbenas; Hannah Whipple, Bouquet; Emma Tufts, Danvers, Flowers; M. Waite, Danvers, Dahlias; Miss A. Felton, Danvers, Verbenas; Anna Dodge, Peabody, Bouquet; Mrs. Hull, Peabody, Amarillis; Mrs. A. R. Gage, Boxford, Flowers; Mrs. D. J. Preston, Danvers, Flowers.

The Committee were happy to be greeted with such a brilliant display of plants and flowers, though the large number of entries, and so many of nearly equal merit, made the task of awarding the premiums, from the sums of money at their disposal, a difficult one.

Digitized by Google

So numerous were the contributions, it was deemed advisable to make a departure from the old routine by establishing *Second Premiums*, in several instances where justice to the contributors demanded it. In the case of Parlor Bouquets, where there was but little difference in the merits of two very beautiful contributions, it seemed to be the only way in which to give a fair expression of the opinion of the Committee.

Two years ago we called for contributions of Gladiolus, and requested the Society to offer premiums for them, believing the increasing interest in the cultivation of this beautiful bulb warranted such a proceeding. The *call* has been lavishly responded to,—as witness the twenty vases of excellent varieties exhibited by Mr. Francis Putnam, of Salem, and half as many more by Mrs. J. Henry Hill, of Amesbury,—but *not so* the request for authority to award a premium. What were the Committee to do? pass these magnificent displays by unheeded, or assume the responsibility of establishing the premiums themselves? They chose the latter alternative, trusting their course will be approved and sustained by the officers of the Society.

Again we wish to call attention to the fact, that one dollar is the largest sum ever offered for the best collection of native flowers. I wish every gentleman having this matter in charge, would, next September, collect and arrange as we have done, two hundred and twelve varieties of native plants, flowers, ferns and mosses, climbing steep ridges for the delicate Harebell, wading in brooks for the showy Cardinal Flower, sinking in bogs and swamps, searching for Pitcher Plants and Fringed Gentian, wrestling half an hour with resolute Thistles that refuse to be gathered; slipping on treacherous banks, gathering the prettiest Ferns, and brightest Dragon-root; walking miles for the fair field flowers, almost endless in variety; riding farther still for those specimens that grow only on the salt marshes of our eastern boundary;—and then I

Digitized by Google

am confident the Flower Committee would never again be compelled to beg for better premiums for these wayside blossoms.

No one but a true lover of nature would ever attempt to present a complete collection of native plants; but even if one derives compensation in the pleasure of gathering, and studying these wild beauties, there is still a satisfaction in feeling that one's work is appreciated by the Society in whose interests they labor; so once more we ask you to establish good *fair* premiums for Native Flowers. In the present instance, where one had collected one hundred varieties, and another presented seventy-five, the arrangement of which deserved especial notice, we feel sure that our venture in giving first and second premiums will be fully sustained by the officers of the Society.

The frequent demands made upon the Committee for vases, by people bringing contributions from a distance, compel us to suggest the propriety of the Society's purchasing a supply of vases, dishes, and other receptacles for flowers, for the convenience of people who favor us with large displays. A member of the Committee suggests vases, similar to those exhibited by the Beverly Pottery Company, and small bottles for Dahlias, Verbenas, &c., as being serviceable and not expensive.

The giving of so many gratuities we believe to result beneficially both to society and contributors. The floral display in itself being sufficiently attractive to draw a large number of visitors to the exhibition hall, were there no other attraction, we should not fail to offer good inducements to the florists to bring hither their treasures. The gratuities as well as the larger premiums will no doubt encourage those who cultivate the flowers, and so each year our towns and villages will grow in beauty, as the growing taste for the beautiful is developed, and prompts our people to reclaim many neglected spots and transform them into bowers of loveliness. Who

Digitized by Google

cannot feel the refining influence of flowers, and in caring for and studying them, how can one help being led through Nature up to Nature's God!

"In these we find where Wisdom hides,
And modest Beauty cowers,
And where Omnipotence resides,
And Tenderness,—in flowers."

Committee—James F. West, Mrs. N. E. Ladd, Mrs. D. W. Low, Susan Putnam, Mrs. L. L. Abbott, Clara A. Hale, Ella E. Abbott.

VEGETABLES.

Your Committee met promptly in the tent immediately after the meeting of the Society had dissolved. Messrs. Henry A. King, Peabody, Joseph Buzzell, Methuen, and the Chairman, were present first, but were soon joined by Messrs. Ansel W. Putnam, Danvers, and Asa T. Potter, Ipswich.

After some discussion as to the meaning of the paragraph which accompanies the list of premiums, and which reads, "No competitor for premiums to exhibit either more or less number of specimens of any vegetable than the premiums are offered for," its meaning was clearly understood. It seemed to be more the province of the Superintendent to enforce this rule, than of your Committee.

A number of competitors had displayed more specimens than are required, while others had shown too few. In the former case the competitors would have made an equally worthy show had they selected the requisite number of the best specimens, and they would thus have prevented all chance of overcrowding the tent, and enabled the visitors to go away better instructed, and without having been deceived by inferior specimens. To cite an example of the latter case, a sample of less than twenty-five ears of field corn appeared

Digitized by Google

most favorably to your Committee, but they could give it no premium, and could only give it a gratuity.

The Committee believe the rule excellent, and, that it may be strictly adhered to, I would recommend that the Superintendent of Vegetables be instructed to see that only as many vegetables are placed on exhibition as will conform to the rule of the Society above quoted.

Some exhibitors did not follow the rules of the Society as to size and weight of vegetables, but premiums were in no case awarded contrary to your rules in this respect. It was our endeavor to award premiums to vegetables that were best suited to the purposes for which they are used, due regard being paid to the cost of cultivation.

The present manner of arranging the vegetables entered for premiums, can be greatly improved upon by adopting the plan which the Massachusetts Horticultural Society followed this year for the first time, and which has been generally pronounced most desirable by connoisseurs. That Society no longer exhibits by collections, but by specimens, so as to have all Mangolds together, all Flat Turnips together, etc., etc. Thus the Committees can do their work most justly and much more quickly. All specimens should be distinctly numbered with the exhibitor's number as contained in the list of entries; and no vegetable should have the owner's name attached until after all awards have been made.

The Committees, having the list of premiums, as contained in the printed "Order of Arrangements," and a sufficient number of premium and gratuity cards, then begin their work. They see before them, in examining for example, the Mangolds, all that have been entered, without having to wander all about the tent to find them; and they can at once examine and place the premium card where it belongs, at the same time making a note of the number attached to the specimen for future guidance. So on till all the awards have been made.

Digitized by Google

The owners' names have not yet been known by the Committees, so that no one can have the chance of saying that any partiality has been shown. It is now the time when the superintendent of the hall should be instructed to give the chairman of the committee the book which contains a list of exhibitors, with their numbers prefixed to their names, and a complete list of the articles each exhibits following his name. Then let the Chairman write on each premium card the exhibitor's name and the name of specimen for which the award was made.

It would be well to provide cards twelve inches long by three and a half inches wide, on each side of which should be printed the names of every vegetable for which premiums are offered; these to be placed in a slit, made in the end of a round stick one-half an inch thick, and the whole supported on a round base one inch thick and five or six inches in diameter. If these are placed near what they represent, and the card at right angles to the length of the tables, we shall have given to our visitors the means of ascertaining at a glance, up or down the tables, where everything is. This plan would also be especially good, if used in the display of fruit, which is always fine at our shows, and would be the means, among both vegetables and fruit, of acquiring for our exhibitors even more credit than they can possibly derive at present. These opinions are most respectfully submitted by the Chairman of this Committee, and are based, not only upon his experience and observation in serving at our last show with a number of gentlemen most admirably qualified for the place, but also from what he has seen at many other shows in this country and in Europe.

The Massachusetts Horticultural Society had not concluded to fully adopt this plan until this centennial year; why cannot we begin the new century by adopting it before our next show?

For the Committee,

FRANCIS H. APPLETON, *Chairman.*

Digitized by Google

Premiums were awarded to the following persons :—

Beets—Early Turnip Blood, Thos. E. Green, Danvers, $3 ; Long Smooth Dark Blood, J. J. H. Gregory, Marblehead, $3.

Carrots—Best Short Top Long Orange, Samuel G. Goodhue, Hamilton, $3 ; Short Horn Orange, Nathan Bushby, Peabody, $3.

Mangold Wurtzels—best six specimens, Benj. P. Ware, Danvers, $3.

Flat Turnips—Best Purple Top, H. A. Stiles, Middleton, $3.

Ruta Bagas—twelve specimens best Yellow, N. P. Proctor, Danvers, $3 ; White Sweet German, J. J. H. Gregory, Marblehead, $3.

Parsnips—Sweet German, N. P. Proctor, Danvers, $3.

Onions—One peck Best Danvers, Austin C. Peabody, Middleton, $3 ; Yellow Flat, J. J. H. Gregory, Marblehead, $3 ; Red, L. C. Hanson, Peabody, $3.

Potatoes—one peck best Early Rose, Allen Lee, Manchester, $3 ; one peck No. 6, or Peerless, J. J. H. Gregory, Marblehead, $3.

Cabbages—three specimens Best Savoy, H. Perry, Danvers, $3 ; next best Savoy, L. C. Hanson, Peabody, $2 ; best Fottler's Drumhead, James Looney, Marblehead, $3 ; next best Fottler's Drumhead, C. H. Brown, Danvers, $2 ; best Stone Mason, J. P. Goodale, Peabody, $3 ; best Early Brunswick, Henry Bushby, Peabody, $3 ; next best Early Brunswick, M. F. Batchelder, $2 ;Best Red, M. F. Batchelder, $3 ; next Best Red, H. Perry, Danvers, $2.

Cauliflowers—Three specimens best, M. F. Batchelder, Peabody, $3 ; next best, E. G. Hyde, Danvers, $2.

Celery—Four roots best, M. F. Batchelder, Peabody, $2.

Field Corn—Twenty-five ears best, C. K. Ordway, West Newbury, $3.

Sweet Corn—Twelve ears in milk, Best Early, Thomas E. Green, Danvers, $3 ; do. Best Late, John Lynch, Danvers, $3.

Squashes—Three specimens, Best Marrow, M. F. Batchel-

Digitized by Google

der, Peabody, $3; American Turban, James P. King, Danvers, $3; Hubbard, Charles O. Putnam, Danvers, $3; Marblehead, J. J. H. Gregory, Marblehead, $3.

Melons—Three specimens Best Green Flesh, L. C. Hanson, Peabody, $2; Best Musk, M. F. Batchelder, Peabody, $2; two specimens Best Watermelons, Dayton Killam, (sixteen years,) Boxford, $2.

Tomatoes—Twelve specimens best round flat, Gen. Grant, and twelve specimens Spherical, J. J. H. Gregory, Marblehead, $3; Essex Smooth, Aaron Low, Essex, $3; Paragon, dish of any other variety, J. J. H. Gregory, Marblehead, $3; do. for greatest variety, $3.

Cranberries—One peck best Cultivated, Jos. S. Holt, Danvers, $3; one peck next best, N. K. Cole, Boxford, $2; one peck next best, H. A. Stiles, Middleton, $1.

Collection Field and Garden Seeds—First premium $8, to John S. Ives, Salem; second premium to J. J. H. Gregory, Marblehead, $5.

Gratuities were awarded to Aaron Low, Essex, Garden Seed; Elias Grimes, Mammoth Squashes, (115 and 140 lbs;) E. M. Mansfield, Danvers, 52 Squashes; J. J. H. Gregory, Marblehead, Collection Squashes,—each $2. Geo. H. Winchester, Peabody, Early Essex Potato; J. P. Goodale, Peabody, Field Corn; Nathan Page, Danversport, White Field Corn; Charles O. Putnam, Danvers, Marblehead Squash; A. P. Blake, Peabody, collection of vegetables; F. P. Putnam, Turnips and Parsnips; T. Graham, Danvers, collection; F. W. Lyford, Danvers, Carrots; Nathan Bushby, Crookneck Squashes; F. S. Lovett, Beverly, Pumpkins; H. Perry, Danvers, Squash Peppers; L. C. Hanson, Peabody, Sage, Marjoram, and Savory; M. F. Batchelder, Peabody, Sage and Marjoram; E. S. Flint, Danvers, Russian Cucumbers,—each $1. M. F. Batchelder, Peabody, Celery; Gustavus Brown, Georgetown, Big Squash, (90 lbs.)

Digitized by Google

COUNTERPANES, CARPETINGS, AND RUGS.

The Committee appointed to examine Counterpanes, Rugs, and Carpets, have attended to their duty, and would report:

The entries of these articles, (except carpets,) were large, numbering 115, and were arranged in the hall more as a decoration to it than for the convenience of the Committee to examine. It was with great difficulty that we examined the Rugs—very far from being satisfactory to ourselves, and probably less so to those who placed them on exhibition. We did the best we could under the circumstances, and have awarded premiums and gratuities as follows:—

COUNTERPANES.

First premium awarded to Mrs. J. C. P. Legro, of Danvers; second premium to Mrs. Mary P. Morse, of Boxford.

Gratuities—No. 1, Mrs. E. Tucker, Peabody, $1.00; No. 6, Miss Mary Very, Salem, 50 cents; No. 28, Mrs. Susan Hynd, Danvers, 50 cents; No. 30, Miss Augusta Arvedson, West Peabody, 50 cents; No. 41, Mrs. E. M. Low, Danvers, 50 cents; No. 43, Mrs. E. Hunt, Salem, 50 cents; No. 58, Mrs. Abby Green, Salisbury, 50 cents; No. 73, Mrs. Jane Hill, Beverly, 50 cents; No. 67, Mrs. J. C. Andrews, Manchester, $1.00; No. 75, Miss Susie Bartlett, Newburyport, 50 cents; No. 84, Mrs. Mary Johnson, Danvers, 75 cents; No. 93, Mrs. P. W. Kimball, Beverly, 50 cents; No. 96, Miss Anna P. Clark, Topsfield, 50 cents; No. 99, Mrs. J. R. Peabody, Topsfield, 50 cents; No. 110, Mrs. H. M. Bean, Rowley, 75 cents; No. 115, Mrs. A. L. Ames, Peabody, 50 cents.

RUGS.

First premium, No. 77, Mrs. Cyrus K. Ordway, West Newbury; second premium, No. 61, Mrs. Elnathan Dodge, Danvers.

Gratuities—No. 2, Miss Elizabeth Wilson, Beverly, $1.00; No. 10, Mrs. R. E. M. Richardson, Danvers, 50 cents; No.

Digitized by Google

16, Mrs. Wm. H. Price, Lynn, 50 cents; No. 18, Mrs. Sarah J. Locke, Danvers, 50 cents; No. 19, Mrs. Moses Welch, Danvers, 50 cents; No. 22, Mrs. A. H. Tibbets, Danvers, 50 cents; No. 29, Mrs. Thomas Trask, Danvers, 50 cents; No. 42, Mrs. Judson W. Dodge, Danvers, 50 cents; No. 44, Mrs. John A. Gibney, Salem, 50 cents; No. 45, Mrs. John Hind, Danvers, 50 cents; No. 49, Mrs. L. B. Taylor, Danvers, 50 cents; No. 52, Mrs. Maria Ledingham, Danvers, 50 cents; No. 47, Mrs. Grace Scampton, Danvers, 50 cents; No. 51, Master William Robinson, Danversport, 50 cents; No. 64, Mrs. George B. Viles, West Peabody, $1.00; No. 68, Mrs. James M. Perry, Danvers, 50 cents; No. 74, Mrs. Thomas W. Putnam, Danvers, $1.00; No. 79, Mrs. Mary H. Colman, Newburyport, 50 cents; No. 86, Miss Lillie Clark, Salem, 50 cents; No. 80, Mrs. Joseph B. Glazier, Salem, $1.00; No. 87, Miss Alice Edmonds, Salem, 50 cents; No. 91, Mrs. Lydia A. Fuller, Lawrence, 50 cents; No. 100, Miss S. B. Peabody, Topsfield, 50 cents; No. 101, Mrs. Simeon Beckford, Gloucester, $1.00; No. 103, Mrs. L. K. Pemberton, Groveland, 50 cents; No. 105, Miss Abbie J. Bazin, Danvers, 50 cents; No. 108, Mrs. Abel Procter, Peabody, 50 cents; No. 112, Miss Stickney, Georgetown, 50 cents.

S. W. Hopkinson, Mary G. Lambert, Clara A. Hale—*Committee.*

LEATHER.

To Henry Hobbs, of Wenham, for Harness, gratuity, $10.

To Joseph Merrill, of Danvers, on Hair Calfskin, gratuity, $3.00.

To John E. Todd, of Rowley, on Thick Boots, gratuity, $3.

To John I. Ladd, of Groveland, on Ladies' Shoes, gratuity, $2.00.

D. H. Stickney, Aaron Sawyer, Geo. H. Peabody—*Committee.*

Digitized by Google

MANUFACTURES AND GENERAL MERCHANDISE.

Your Committee on Manufactures and General Merchandise respectfully submit the following report of their awards in gratuities :—

Mrs. C. A. Lawrence, Antiquarian Ware, $2; J. N. Burbeck, Display of Soap, $2; Lewis P. Foss, case Dentistry, $1; Mrs. Mary Page, Jar of Cocoons, 50 cents; G. F. Priest, Ottoman, 50 cents; Perkins & Bradstreet, Display of Soap, $1; Stephen C. Osgood, Chairs, $3; Daniel Peabody, Clothes Wringer, 50 cents; W. H. Shirley, Flower Bracket, 50 cents.

N. E. Ladd, Charles Ingalls, D. Bradstreet—*Committee.*

FANCY WORK AND WORKS OF ART.

The Committee on Fancy Work and Works of Art award to Mrs. Eben G. Berry, of Danvers, for Oil Painting, Roman Forum, $3; Oil Painting, Sea Shells, $2; M. P. Needham, of Peabody, for Oil Painting, Pair of Panel, $2; Oil Painting, Pallet, $1; Oil Painting, Cherubs, $1; Nellie Stanley, of Salem, for Crayon point Drawing from Model, $1; A. B. Pike, Crayon Picture, $1; George F. Priest, of Danvers, Book of Designs, $1; Charles H. Masury, of Danvers, one pair of Alto-Relievo Tablets, $2; Eveline A. Fellows, of Danvers, five Ceramic Paintings, $1; S. F. Eveleth, of Danvers, one pair of Terra Cotta Models, $1; Mrs. Mary C. Tapley, of Danvers, Specimens of Marking in Ink, $1; Annie P. Newhall, of Peabody, Specimens of Marking in Ink, $2; Mrs. Dr. Fowler, of Danvers, two Crayon Pictures, $1; Mrs. G. A. Gunn, Embroidery Shawl, $2; Mrs. Elnathan Dodge, of Danvers, Ottoman Cover, $1; Eliza Trask, of Danvers, Embroidered Night Dress, $1; Mrs. Lois A. Dudley, of Danvers, Embroidered Night Dress, $1; Mrs. S. M. Griffin, of Danvers, Embroidery, $1; M. E. Campbell, of Danvers,

Digitized by Google

Embroidered Skirt, $1; Mrs. G. P. Buckley, of Danvers, Embroidered Night Dress, $1; Ella Wyman, of Middleton, Feather Wreath, $1; Anna L. Roach, of Danvers, Ebony Frame, &c., $1; Annie P. Clark, of Topsfield, Rug and Toilet Set, $1; Emily F. Carlton, of North Andover, Samples of Tatting, $1; Miss Frank L. Gustin, 13 Tidies, $1; Mrs. Anna Southwick, of Danvers, two Ottoman Covers, $1; Eliza Trask, of Danvers, Ottoman Covers, 50 cents; Sadie A. Bushby, of Peabody, Toilet Set, 50 cents; Mrs, Gilman Andrews, of Salem, Card Receiver, 50 cents; Abby Sumner, of Peabody, Wax Cross, 50 cents; Mrs. Thomas Hoyt, of Middleton, Chair Cover, 50 cents; Mrs. J. P. Tufts, of Danvers, Air Castle, 50 cents; Jessie R. Merriam, of Danvers, Toilet Set, 50 cents; M. Etta Sawyer, of Danvers, Hair Work, 50 cents; C. L. Silvester, of Danvers, Embroidery, 50 cents; Mrs. Gilbert B. Emerson, of Danvers, Towel Rack, 50 cents; Arthur F. Gray, of Danvers, India Ink Copies, 50 cents.

Andrew Nichols, for Mrs. Edward W. Jacobs, Mrs. John Todd, Miss Ellen M. Putnam, Miss Rebecca Goodell—*Committee.*

CHILDREN'S WORK.

Work by children under twelve years of age—Emma J. Cann, Danvers, Rug, first premium; Jessie F. Fowler, Danvers, Knit Jacket, second premium.

Gratuities of 50 cents as follows: Mattie Robarts, Beverly, two Tidies and Motto; Helen D. Bacon, Danvers, Toilet Set; Abbie E. Richards, Danvers, Motto; May Vaughn, Danvers, Lamp Mats; Gracie H. Putnam, Danvers, Patchwork; Martha P. Swinerton, Danvers, Motto; A. W. Perry, Danvers, Cushion, Motto, and Tidy; Arthur Hammond, Danvers, Cigar Stand; Anna S. Berry, Danvers, Motto; Lillie P. Bell, Danvers, Cushion; E. Louise Richards, Danvers, Mot-

Digitized by Google

to; Mary F. Brown, Danvers, Motto; Hattie Batchelder, Danvers, Motto; Martha Dougherty, Danvers, Motto; Edna M Legro, Danvers, Motto; Mary F. Perry, Danvers, Toilet Set; Kittie E. Wiley, Peabody, Tidies.

For the Committee, MRS. E. G. BERRY.

FARMS.

Your Committee have had but one application to examine farms, entered for premium, and this was visited but once, (in July,) during the year. This farm (if it may be called such) is situated in the western part of Haverhill, and belongs to Mr. Rufus Goodwin, and consists of about ten acres, nearly all of which is under cultivation. In addition to the statement of Mr. Goodwin, which is presented herewith, your Committee desire to say that, in awarding to him the Society's second premium of $20, it is not given because of any results attained of a magnitude corresponding with such as have been reached by many farmers in the county, but because his work indicates the possession of a desirable faith in soil cultivation as a remunerative pursuit, and because he has shown, in a comparatively small way, what may be accomplished by intelligent industry, patience, and perseverance in the pursuits of husbandry. Mr. Goodwin is a machinist by trade, and leaving the shop where he was employed at high wages, in 1872, he entered upon the work of clearing his ten acres of land of bushes and rocks, and bringing it into good tilth. The results of his labors for three years abundantly proved that it is *safe* for mechanics and others engaged in industrial labors to throw down their shop tools and take up the "shovel and the hoe" on the land. He has proved that "ten acres is enough" to support a good sized family, and leave something in the bank each year for "wet days" in life. He has turned his rocky land into what may be called a garden,

Digitized by Google

or what promises to be a garden after a few years more of labor is bestowed upon it. In accomplishing this result, great good is done, inasmuch as it encourages others, who have small means, to turn in the direction of the land for support. If it is proved that five, six or eight hundred dollars a year can be realized from the cultivation of a small homestead in Massachusetts, in Essex County, it surely must attract attention, and lead to the rapid taking up of the tens of thousands of acres of cheap, but good, lands which are now entirely neglected. Mr. Goodwin enters largely into the cultivation of fruits and vegetables, which find a ready sale in the near cities of Haverhill and Lawrence. His fruit trees are young, but very thrifty, and his vines give promise of heavy crops in the coming years. There are many hundreds of acres of good pasture land in the county,—land as good as that upon which Mr. G. is at work,—which can be purchased at about $25 per acre; and to these neglected acres special attention is called. The Chairman of this Committee purchased, a couple of years ago, sixty acres of most excellent land, at a cost of $20 per acre, and this is situated not more than two miles from the city hall in Haverhill, with a population of 15,000. It is this class of lands, of which there is an abundance, which invites the attention of young men and mechanics who do not find constant employment. It is hoped that the Farm Committees will have in the coming years many "farms" to inspect, which are now comparatively unproductive and valueless, and that Mr. Goodwin's example will be largely followed.

For the Committee,

JAS. R. NICHOLS, *Chairman.*

STATEMENT OF RUFUS GOODWIN.

I bought my place, which contains ten acres, in October, 1871. I did not go on it myself till April, 1873. Three

Digitized by Google

acres of the land were under a fair state of cultivation; the remaining seven acres were pasture land, rough and stony, woodland and scattering trees amounting to twenty-five cords of wood.

I have cleared the land, sinking and blowing out two hundred large stones; have dug and built one hundred and seventy-five rods of stone wall, put in seventy-five rods of underground drain. I should think I have used forty cords of manure, seventy-five bushels of salt, and from six to seven barrels of superphosphate. I have set out 180 pear trees, 30 apple trees, 85 peach trees, 10 quince trees, 100 gooseberry bushes, 100 currant bushes, 1000 raspberries, 300 hills rhubarb, 250 asparagus roots, and 300 grapevines.

In 1873 I sold from my place $412.58 worth of produce. In 1874, $708.94 worth. In 1875, $841.58 worth. In July and August of this year, I have sold $229.42 worth.

IMPROVED MEADOW LAND.

There has been but one application for premium the present year on improved meadow land. James J. H. Gregory, of Marblehead, has improved a piece of meadow land in the most thorough manner, has raised on it different kinds of vegetables with good success, as his statement shows. He has done it on a large scale, as he does his other farming, and there is no doubt has made it profitable.

The Committee visited it in the latter part of August, in a very dry time, and found it suffering for want of rain. His onion crop was good for this season, but it appeared to have suffered considerably from drought. As to the amount of the crop, the Committee have not been informed.

Meadow land, where the mud is deep and thoroughly drained, is liable to suffer from drought like other land, and your

Digitized by Google

Committee were of the opinion that in some cases such meadows might be benefitted by damming the water at certain seasons of the year, at the outlet of the ditch, and retaining such an amount of water in the ditch as may be necessary to keep the land moist, or to some extent guard against drought.

Meadows require some dressing from the upland in shape of sand, gravel, loam, or something of the kind. Most persons use such material as may be nearest at hand, or can be used with least expense, and if a person is successful, he is apt to think that the material he used is the best, hence there are different opinions on the subject. Sand can be used with considerable less expense than gravel, as it is much easier shovelled. I have been informed by those who have used both sand and gravel, on the same meadow, that gravel is decidedly the best. For myself, I have had considerable experience in cultivating meadow land, but never used sand, as I had access to none within a reasonable distance. I should recommend, however, that persons who have access to different material, to try the experiment and judge for themselves. The Committee would recommend that the first premium, of fifteen dollars, be paid to James J. H. Gregory, of Marblehead, for his improved meadow land.

It is an old saying that experience is the best schoolmaster. The writer therefore proposes giving some of his own experience in cultivating meadow land, believing that he has had longer experience than most others, although it may not be so instructive.

Fifty years ago my father had a few acres of meadow land in the central part of his farm, adjoining the road and near his buildings, which he considered of but little value, as it produced but little hay, and that of poor quality. He often said it was an eyesore to him, and that he would gladly give it away, if it could be removed, and his hill land, (as he called it,) could be moved in to take its place. The most of the year it was covered with stagnant water; in winter it was covered with ice, where the boys congregated to play and

Digitized by Google

skate; in spring it was made hideous with the croaking of frogs and paddocks, and in summer the blackbirds built their nests in the tall grass. In the year 1827, (I think it was,) my father being feeble, I concluded, with his consent, to take one step at least toward removing the nuisance, which was to dig across the road six or seven feet deep, make a new bridge, and thence into the land of my neighbor, to drain off the water. This work I accomplished, and spread the contents taken from the road on the borders of the meadow, which produced large crops of hay.

The next year, the water having drained off, I dug a ditch across the deepest part of the meadow, and found the greatest depth of mud about three and a half feet, but the outlet across the road was not sufficiently deep to draw the water more than about three feet from the surface. I also dug some ditches in the other direction, as circumstances seemed to require.

In the spring of 1829 my father died, and I came into possession of the farm by purchase from my brothers and sisters. Now in regard to the meadow thus far, I had been successful; the stagnant waters had been drawn off, and the noxious reptiles had abandoned it, and the question now was, how can it be improved and made profitable?

I attempted to plough it, but was unsuccessful, as sedge beds were scattered over the meadow, which, in addition to cranberry vines, made it impervious to the plough. Again the question came back, how can I improve the meadow? There was no precedent to my knowledge, as draining and cultivating meadows was entirely a new thing, and my neighbors were like Job's comforters, had no faith in my success, and thought it had better go to cranberries, although they were of but little value. The next two years I did but little to the meadow, except draining it more thoroughly, as circumstances seemed to require, by cutting off the cold springs on every side, and spreading the subsoil on to the surface,

Digitized by Google

which, with hayseed being sowed, caused good crops of English Hay without manure.

In 1833, I built a new barn, 84 by 40 feet. The cellar was dug where the old barn had stood for sixty or seventy years. The contents of the cellar, which was a gravelly loam, were removed into a large heap, mostly by the plough and ox shovel. The ground was strongly saturated to the depth of four or five feet with the leachings of the manure heap, and the urine from the cattle, where they had been stalled for so long a time.

In the fall and during the next season, the contents of the barn cellar were spread on the meadow as top dressing, on which I sowed herdgrass and red-top seed. The grass soon sprang up rank and strong, and the next year it produced a good crop of hay. For several years after it produced two large crops per year without more top dressing.

I think there was more hay produced on that meadow for a series of years than on any land that I have ever known in the same length of time. I never have known but once the amount per acre that it produced at one crop; that must have been some years after I commenced mowing it. That was sold from the field and went to the stable in the village. Two loads, about three tons, were carried away. I then surveyed the land that produced it, and found it less than one acre. I then computed it, and found the product per acre sixty-seven hundred and sixty-five pounds. I thought at the time that the crop was not so heavy as it had produced some previous years. The mud in the meadow has settled one-half since I first commenced draining it, and it requires much more top-dressing now than it did in the early years of its improvement, to produce a like crop. It rarely suffers from drought, as there is usually water in the main ditch coming from a spring not far distant.

The most of the ditches are kept open. Some of the ditches that I first dug were filled to within about eight inches of

Digitized by Google

the top of the ground with small stones, after making a small culvert at the bottom for the water; then covered the ditch with gravel. The most of the ditches that I have filled with small stones, as above named, have become clogged and filled up, and it has been necessary to dig new ones. I have supposed that muskrats and meadow moles in some cases have had something to do in filling up among the small stones on meadow land, where there is a small depth of mud. On higher land the woodchucks will sometimes burrow and clog up the ditch.

I have used a large amount of stones for underdraining, and in some cases it has been done to good advantage, as the subsoil would pay for throwing out for top-dressing, and the small stones were buried out of sight. I should, however, in most cases, recommend tile for underdraining, where they can be buried sufficiently deep to protect them from frost. I have extended these remarks far beyond what I intended when I commenced, and will now close.

JOSEPH HOW, *Chairman.*

STATEMENT OF J. J. H. GREGORY.

Gentlemen of the Committee:—The Improved Wet Meadow I enter for your examination is a tract of about a dozen acres, located on the Glover Farm in Marblehead, and bordering on Atlantic Avenue, which extends from Marblehead to Swampscott. The meadow is muck, from two to six feet deep, resting on clay. Previous to reclamation, the tract was but of little value for any purpose; it was wet, rough, and mostly covered with rushes and coarse grasses. About twenty-five years ago there was an attempt made to reclaim a small portion of it, but there then being insufficient drainage, it was a failure. The first step taken was to open a deep ditch of about eight hundred feet in length, which was walled with stone its entire length, at the cost, when finished, of about a dollar a linear foot. The design was that this ditch should

Digitized by Google

serve to drain not only the meadow, but a large tract of low land in the rear of it. The second step was to lay tile or hemlock boards from several springs to the main ditch running through the middle of the meadow. These steps having made the meadow sufficiently dry, the hummocks, hillocks, and tussocks were now attacked with picks and "tormented" with the harrow until the surface was made comparatively smooth. In the course of the work, some of the rougher material we carted off and burned. The meadow, during this and subsequent treatment, was handled in four sections of about equal area, divided by the road running through it, and the main ditch cutting the road at right angles. One of these sections was the first season ploughed and planted to cabbage, and gave an excellent crop. Two of the other sections, in the course of the next two years, were also put under the plough, and yielded, with about the usual quantity of manure, excellent crops of Mangold Wurtzels, and Squashes. Potatoes have succeeded well in dry seasons, but in wet seasons are more affected with rot than those grown on common soil. Carrots, when tried in a dry season, are much inclined to grow "prongy." About a quarter of the area, after applying to the surface gravelly loam or sand, at the rate of about seventy-one horse-cart loads to the acre, has been planted to onions with excellent success. Heavy crops of hay have been taken from every portion of the meadow, usually two crops each season. In the early handling of this meadow, considerable clay taken from the bottom of the main ditch was spread over the surface.

IMPROVING PASTURE AND WASTE LAND.

On the 28th of July, your Committee visited the farm of Joseph Horton, Ipswich, to examine a piece of land entered for premium. There being no other competitor, the Com-

Digitized by Google

mittee, considering his experiment a deserving one, have awarded him the first premium of $15. Mr. Horton's statement is enclosed.

The Committee would suggest that one item of expense, the carting off of the sods, &c., might have been saved by burning on the land. One of the Committee remarked that he thought the burning might have been omitted, and that the simple turning over of the sods and bushes would have been sufficient to reclaim the land.

This brings in discussion the comparative merits of burning and non-burning,—that is, merely ploughing. Where there is a superabundance of vegetable matter, as on peat land and on some clay soil, burning has proved of much advantage. Mr. Horton's land seemed to be somewhat of a clayey nature, though not decidedly clay land, yet a certain admixture of the latter with gravel and loam. We should also judge that it was lacking in humus or vegetable matter.

We think a combination of the two methods mentioned would have been the best; that is, to have burnt the toughest sods and bushes, which would have taken a long time in rotting, and to have left all grass or pliant sods on the land. The process which Mr. H. pursued is called "Paring and Burning," and is more common in England than in this country. Mr. Colman, in his "European Agriculture," devotes some attention to this subject. He says, "The process of paring and burning the surface of land has been practised with great, though not always with equal success, in many parts of the country. The objects of it are threefold: first, to reduce the coarse vegetable matter on the surface to a state of decomposition, that it may be supplanted by a more profitable vegetation; the second, to destroy grubs, insects, and the larvæ of insects, which infest the soil and are pernicious to the cultivated crops; and the third, to convert the coarse vegetable matter on the surface into ashes, for the nutriment of the crops which are to follow. This process is not to be

Digitized by Google

confounded with that of burning clay for the purpose of manure, and of rendering the soil friable and pervious to the roots of plants." The mode of burning described is the same as practised by Mr. H.,—that of slow, mouldering fires,—but the burning itself seems to have taken place on the land.

Mr. C. quotes the following, which certainly seems a remarkable statement: "An acre of land from which the turf was taken in the common mode of paring and burning, appeared to have produced an average of 2,60 bushels of ashes, which, at their mean weight of 65 pounds to a bushel, when dry, would give 172,900 pounds, or rather more than 77 tons per acre."

We hardly know how to estimate the quantity of ashes produced on Mr. Horton's land from the information given. He says twenty loads. Without knowing the size of the loads, we shall estimate that each load contained fifty bushels, which would give a total of 1000 bushels, and at 25 cents a bushel, would be worth $250.

Mr. C. also goes on to state what has a very important bearing on the subject, that "it has been said that the destruction of vegetable matter in the soil must necessarily impoverish it; and that it would be much better to bury this vegetable matter, where, by a slow decomposition, it might serve to afford nutriment to the crops to be cultivated. There are, in the first place, some mechanical difficulties in the case. Where a piece of heath land, covered with coarse grasses and low bushes of furze or fern, is ploughed, it is extremely difficult, even by the most severe process of pressing or rolling, to make it lie flat, and so consolidate it that it can be cultivated to advantage. This is stated to have been the fact, on an extensive heath in Surrey, where cultivation, under the practice of paring and burning, succeeded well, but very ill where the land was only turned over without paring and burning."

"There are certainly strong reasons, in such cases, for par-

Digitized by Google

ing and burning fields of this description; but they do not apply to those lands where the vegetable matter is of a different description, and would, by being covered over, be speedily brought into a state of decomposition. In the process of burning, it is evident that none of the earthy or mineral constituents, or what are called *inorganic* portions of the soil, are consumed. But all the vegetable matter, with the exception of that portion which has become charred in the process, is destroyed."

"The humus of the soil serves to render it more friable; it absorbs moisture from the atmosphere, and it retains heat, and, in these respects, if in no other, contributes to vegetation. In dissipating this matter, then, by burning, we must look for some compensation in the ashes which are produced, or in the mechanical effects which this burning operates upon the soil. The ashes themselves are powerful absorbents and retainers of moisture, and they answer a valuable purpose in the disintegration, or loosening, of the soil. They certainly, in many cases, operate as an efficient manure."

"The expediency of paring and burning land must, as I have remarked, depend upon the nature of the soil which is to be subjected to the process. On light, sandy, or gravelly soils, where the vegetation is thin and sparse, it is strongly objectionable."

After having given Mr. Colman's instructive analysis of the subject, we shall only add that we would suggest to Mr. Horton that the ploughing under, of several green crops, like clover, would be likely to restore any loss of vegetable matter which may have been incurred in the process of burning.

J. D. W. French, *Chairman.*

STATEMENT OF JOSEPH HORTON.

To the Committee on Improved Pastures and Waste Lands: Gentlemen.—As the land that I have offered for the society's premium, having been inspected by you, received the same

Digitized by Google

treatment as a parcel offered last year, I quote in full from the "Transactions" of 1875, page 110, which gives in detail my method of treating such lands:

STATEMENT.

"The land upon which I operated was about two and one-half acres of old pasture. The surface was raised into ridges and hillocks, and for the most part covered with bushes. Treatment: by ploughing I levelled the ridges, tore up the bushes, getting out what roots I could. I then carted the whole into a pile and started a fire, which I kept going until all were consumed. The field was then ploughed again and seeded to grass. Twenty cart loads of ashes, the amount obtained from the fire, being applied for dressing."

But as a great part of this dressing was blown off by the wind, I afterwards applied four cords of stable manure as a substitute.

"This method has decided merit over all others that I have tried, as it thoroughly and at once clears the land of all noxious growths, works the soil, leaves it in such a condition that it can be treated readily and in a first-class manner, and, as it furnishes its own manure, comparatively cheap. In regard to the chemical properties or value of these ashes, I can give no information. I simply know that the land upon which they were used does well, and as yet shows no sign of running out.

EXPENSE OF IMPROVEMENT.

Ploughing and clearing,	$20.00
Ploughing and preparing for seed,	20.00
Seed,	3.00
Four cords of manure,	28.00
Total,	$71.00
Income the first year, 4 1-2 tons of hay, at $25.00 per ton,	$112.50
Income beyond expense,	41.50

Digitized by Google

OBSERVATIONS ON THE ABOVE STATEMENT AND REPORT.

The reading of the above report gave rise to considerable discussion at a meeting of the Trustees of the Society, when reports of committees were under consideration, and I was requested to append to the report some remarks.

I desire to call attention briefly, first, to the written statement of Mr. Horton, and second, to the observations of the Committee, and the extract presented from Mr. Colman's "European Agriculture." The points in Mr. H.'s statement which seem extraordinary, relate not so much to the simple method adopted in clearing his land, as to the alleged ash results obtained and their assumed fertilizing influence upon the field. To obtain "twenty cart loads of ashes from two and one-half acres of pasture land," it would be necessary for Mr. H. to cut down in bushes, and dig up in roots, and haul to his "pile" at least *five hundred* "cart loads" of the material. This is apparent from the fact that such woods contain only about two and one-half per cent. of ash constituents. A "cart load" of ashes may be assumed to be forty bushels, weighing forty pounds to the bushel; this gives in weight to the load 1600 pounds, and to the twenty loads, 32,000 pounds. It seems utterly impossible to obtain 32,000 pounds of ashes from bushes and roots taken from "two and one-half acres of old pasture land;" and if obtained, the dressing would be enormous. Another inexplicable point in this statement is: how could Mr. H. plough the land, cut down the crop of bushes, dig up the roots, and cart away the immense amount of material, at a cost of *only twenty dollars?* As a "great part of the dressing, (ashes,) was blown off by the wind," the fertility of the field is presumably due to the manure applied. The loss of twenty "cart loads" of dry wood ashes is a serious one, the cash value being, upon the estimate above given, at thirty cents a bushel, $240, more than twice the value of the hay crop secured.

It only need be said that it requires but a glance at this

Digitized by Google

statement to learn that it was prepared in a hasty manner, and without due consideration. There is probably no intention of inaccuracy of statement, and these strictures are kindly made with the view of securing in the future more exact and reliable accounts of farm labors and farm improvements. The estimates here made differ from those of the Committee, in item, cost, &c., but not essentially in general result.

As regards the astonishing yield of ashes from an acre of land, alluded to by Mr. Colman, and quoted by the Committee, it may be said that, that ash result came from the burning of *turf*, and the ash was composed of at least *ninety per cent. of silica or sand*, and therefore it was comparatively valueless. Pure *peat ashes*, I have found to give, upon analysis, eighty-one per cent. of silica, which accounts for their small value as plant food. *Turf* is sand, with a small amount of vegetable matter diffused through it, and when it is burned, the sand remains behind in a heap, *resembling* pure ashes. Mr. Horton's experiment is different; he alleges that his ashes were the result of the burning of bushes and roots. The "heath" and peat lands of England and Ireland are very different from our waste lands, and the methods of treatment for recovery cannot well be the same.

The treatment pursued by Mr. Horton is essentially that which was adopted by our forefathers one and two hundred years ago. A rare old book may be found in the library of the Essex Agricultural Society, entitled, "Essays upon Field Husbandry in New England, by Jared Elliot, A. M.," published in 1760, in which a statement is made on page 6, of experiments in reclaiming waste land, which in methods adopted closely resemble those of Mr. Horton. It is to be regretted that we have so little which is new to present upon so important a branch of husbandry.

JAS. R. NICHOLS.

Digitized by Google

MANURES.

The Committee on Manures have not received any application for the premiums offered for the most exact and satisfactory experiments in the preparation and application of manures, whether animal, vegetable, or mineral.

This is to be regretted, inasmuch as the successful prosecution of agriculture lies in a knowledge and supply of those ingredients to the soil which are found, by oft-repeated experiments, to be most conducive to the full development of cultivated plants.

The discoveries of chemistry show that all plants are built up of organic and inorganic materials. Their organic part consists of about nine-tenths of their weight, or that part which can be consumed by fire, and the inorganic that which remains in the ash.

Their organic elements are derived from the atmosphere, viz., carbon, oxygen, hydrogen, and nitrogen. Over these man has no control, for when the present harvest is consumed, or decays, these elements, without loss, return to the atmosphere, and are laid up for future use. Hence it is seen, that in the divine economy the same materials are worked over and over again, in the annual harvests forever.

But it is the inorganic elements of plants with which the cultivator has to deal, and over which he has control; for the living plant draws from the dead earth those materials which are indispensable to its healthy growth.

If, therefore, certain plants require in their growth, potash, soda, lime, sulphuric acid, or any other inorganic constituent, and the farmer, repeatedly raises the same crops, upon the same ground, without returning the inorganic matter which he removes in each successive harvest, it is obvious that his crops must diminish from year to year, for it has been found that however small the inorganic matter which a plant requires, if it cannot be found in the soil, the plant sickens and dies.

Digitized by Google

A striking instance of the failure of grass upon a portion of a piece of peat meadow, which we reclaimed a few years since. The meadow was drained, the surface levelled, and in winter, when frozen, about one hundred ox-cart loads of gravel were hauled upon it to the acre. In the following summer this was spread, covering what grass was growing. In the autumn a compost was spread upon it, and grass seed sown. The next summer the crop of hay was two and one-half tons to the acre.

The herdsgrass standing four feet upon a level upon the lot, with the exception of a small piece upon one end, on which no gravel was spread; upon this part of the meadow, clear peat, with the exception of the compost, the grass attained but half the height of the gravelled part, was very soft, and fell to the ground, for want of silex to give strength to the stem. It is thus seen that for the want of a single element of inorganic matter in the ground, the crop failed one half.

There can be but little doubt that many of the cultivated fields of the county, which produce but a scanty crop without being enriched by stable or barnyard manure, might be greatly improved, at a comparatively small expense, by the application of some inorganic element of manure, (for any matter which makes land productive is manure,) like lime, potash, soda, or any other inorganic element of plants, of which the soil has been robbed by long continued cultivation.

There is ground which at sight looks as if it might be naturally productive, but which scarcely produces grass enough to form any sward. Here, perhaps, one or two simple elements of plant growth are wanting, which, if supplied, might render the land productive.

It is hoped that cultivators the coming season will make careful experiments with the mineral preparations which are for sale, and which are said in some instances to double the crops.

For the Committee,

J. NEWHALL.

Digitized by Google

ROOT CROPS.

The first crop viewed by the Committee, was a piece of Summer English Turnips, entered by Hiram A. Stiles, of Middleton. We found the crop suffering badly from the extreme dry weather, and being a vegetable that needs considerable amount of moisture to grow well, and to be of good quality, it seemed that unless rain came soon, the crop must be nearly a failure.

By the statement submitted by Mr. Stiles, the crop does not appear to have been near an average of what he has usually raised. But considering that hardly any crop is up to an average this year, and as Mr. Stiles has given us an excellent description of his method of raising the Summer Turnip, a crop usually very difficult to raise early in the season, the Committee award him the premium of $10.

The Committee next visited the Onion crop of Ira F. Burnham, of Essex. Mr. Burnham's onions were on the same piece of land on which he was awarded the premium on Onions last year.

The dry weather had lessened the crop considerably, as the onions were of rather small size, but very handsome and well ripened. By the statement of Mr. Burnham, his crop appears to be a very fair one, and if he had a suitable season, it doubtless would have been a very large one, as the onions were very even all over the piece.

The Onion crop of Daniel Carleton, of North Andover, was the next entered.

The Chairman of the Committee not being able to visit Mr. Carleton's, it was viewed by other members of the Committee, who found the piece looking finely. The onions were of good size, and apparently would produce a large crop.

By the statement of Mr. Carleton, the amount was somewhat lessened by the ravages of the maggot on some parts of the piece; but, on the whole, it was a very satisfactory yield. It appears, by the statement, that he manured a part of the

Digitized by Google

piece with a compost, composed of meadow muck, cattle, horse, and hog manure, and the remainder with Cumberland Superphosphate alone.

The yield was the largest on the part manured with the compost. In the extreme dry weather of the past season, the compost would naturally be better adapted to the crop than the Superphosphate. Most of the concentrated manures need a larger amount of moisture than barn manure or compost, to show as good results.

We think the experience of most farmers and gardeners to be, that unless the season is rather wet, they cannot be used to good advantage. We were well pleased to see that Messrs. Stiles and Carleton both had used various kinds of manures, to find out by actual experiment, if possible, what one was best adapted to their respective crops. It is only by such experiments we can decide the comparative value of any new manure that may be offered for sale.

The Committee award to Mr. Carleton for his crop of Danvers Onions, the premium of $10.

We next visited Hayden A. Merrill, of North Beverly, who entered a piece of Marrow Squashes, also a piece of Fottler's Improved Brunswick Cabbage.

The Squashes were handsome and of very uniform size, and of that variety commonly known as the Boston Marrow.

Mr. Merrill's statement of the amount of crop, and cost of producing the same, is annexed, and the Committee award him the premium of $10.

The piece of Cabbages we found to be very handsome, most of the heads being large and solid. The piece was unbroken, Mr. Merrill not having cut any for market at that time. The Committee were unanimous in the opinion that a better lot of cabbages are seldom seen. By the statement of Mr. Merrill, it appears he used quite a number of kinds of manures, mixed with meadow muck, as a compost, putting it in the hill.

Digitized by Google

The Committee award to him for his crop of Fottler's Improved Brunswick Cabbage, the premium of $10.

On the same day we visited the farm of Francis R. Appleton, of Ipswich, who had entered a piece of Ruta Baga Turnips, also a piece of Mangold Wurtzels.

The piece of Turnips was very uneven in appearance, and injured badly by lice, occasioned, doubtless, by the dry weather; but as the turnip will grow late in the season, there was a chance for the crop to recover and produce a good yield. From the statement of Mr. Appleton, it appears there was not as large a crop as he has usually grown on his farm.

The piece of Mangold Wurtzels was, like the Turnips, very uneven, with many vacant spaces. The seed of the Mangold Wurtzel is very hard to get up evenly.

The better way, we have found to be, is to soak the seed in warm water for twenty-four hours, then dry it so it will not cling together in sowing, or roll it in ashes or plaster and sow at once, covering deep enough to insure moisture, so that the seed will germinate freely.

In the statement of Mr. Appleton, his method of raising, and the amount of each crop, is given; but as the whole amount is consumed on the farm, he makes no estimate of the cost of producing, or value of the same.

The Committee award to him for his crop of Ruta Baga Turnips, the premium of $10.; also for his crop of Mangold Wurtzels, the premium of $10.

On reading the statements of the cost of producing the crops entered for the premiums of the Society, this question naturally suggests itself. For what purpose does the Society offer these premiums? Is it simply for the pleasure of paying out the amount awarded the successful competitor? or does it rather expect in return that their statements shall furnish some new ideas or information gained as to the cost of producing the crop in question?

No new information can be acquired unless we step out of

Digitized by Google

the old routine, and endeavor by carefully conducted experiments to determine whether the new idea is an improvement on the old, or the new method demonstrated to be a success by the results.

If by using any of the many different kinds of concentrated fertilizers now in the market, we can produce as large a crop as we can by using barn or stable manure, and at one-half the cost of the latter, it is certainly a step in the right direction; a step which we are all in favor of,—that of *decreasing our expenses, and increasing our receipts.*

If, by taking a few hundred pounds of a concentrated fertilizer, and applying it by a few hours' labor to an acre of land, we can produce as large a crop of Potatoes, Squashes, Onions, Cabbages, or Turnips, as could have been produced by the old and more laborious method of applying six cords of stable manure to the same, we have demonstrated practically a fact which commends itself at once to every farmer.

Many farmers do not know the cost of raising any given crop; keeping no record whereby they can judge whether they have made or lost by the operation. Many labor on in the old routine of applying a small amount of barn manure yearly, and adopting the old methods of cultivation, trusting to a propitious season to produce a paying crop.

At the present low rates which farm produce is bringing in the markets, the farmer of this vicinity must of necessity avail himself of every opportunity to lessen the cost of the same, if he would compete successfully with the more favored farmers who cultivate the fertile lands of the West.

Two years ago, in some experiments made to determine the comparative value of the following kinds of manure: Muriate of Potash, Brighton Fertilizer, Barn-cellar Manure, for cabbages,—we broke up a piece of light loamy soil, on the 26th day of July, harrowed and furrowed it on the 27th. On the 28th I manured six rows with a table spoonful of Muriate of Potash, and six rows with a handful of Brighton Blood Fertilizer to each hill, mixing both kinds well with the soil. On

Digitized by Google

the remaining six rows I put a good shovel-ful of fine barn cellar manure to each hill. On the same day I set the whole piece to Fottler's Improved Brunswick Cabbage plants, two and one-half by three feet apart. The plants all started finely, but those on the Potash soon went ahead, showing very plainly that the Potash was better adapted to their wants than either the Blood or the Barn cellar Manure, although they were doing very well. The piece was cultivated and hoed twice.

On harvesting the crop, almost every plant grown on the Potash had a large solid head, with but very few loose leaves. Those grown on the Brighton Blood Fertilizer had done well, about three-fourths having made good sized solid heads. Those grown on the Cellar Manure had done very well, but evidently needed longer time to form as solid heads as those grown on the other two kinds of manure.

On the next season, (1875,) I tried the same kind of manure on the same piece of land, but changed the crop to Potatoes, using the manures in the same manner as on the previous year. Planted the Late Rose in the second week in May. During the season they were cultivated and hoed twice. The result was somewhat changed; those on the Blood Fertilizer taking the lead, followed by the Cellar Manure,—the Potash evidently being too caustic, the vines not looking thrifty. On digging, I found the crop a third larger on the Blood Manure than on either of the other two; the potatoes were larger, fairer, and more in a hill.

The experiment on Cabbages, in 1874, having been so marked, to test it more fully, I again, in 1875, tried the same kinds of manure, but on a heavier soil. The piece was broken up about the 20th of July, and treated in the same manner as that the year before. The plants were set on the 25th. They started well, but were followed by very dry weather, so that no part of the piece did as well as that the year before; still those on the Potash showed the best result.

Digitized by Google

I again tried the same experiment the past season, but varied it by sowing the seed in the hill on the 10th of June. The seed came up nicely, but the extreme dry weather that followed through June and July was very unfavorable to the young plants, especially to those on the Brighton Fertilizer, a large part of the plants dying for want of moisture. Those sown on Potash and Barn Manure withstood the drought much the best, and have yielded a very good crop.

In all three cases the Muriate of Potash has produced the most satisfactory results, giving each time the largest product for the least expense.

We would respectfully suggest to members of the Society, who intend to compete for premiums in the vegetable department, that instead of waiting for a crop that has happened to be better than usual, (but why, they cannot tell,) they select a piece of land of the required dimensions, dividing the same into as many parts as convenient, manuring each part differently, with such manures as convenience or fancy may suggest. Keep a careful watch throughout the season, noting particularly any difference which may appear in the several parts, whether for or against the crop, and tracing it, if possible, to the original cause, whether that may be owing to the manuring, depth of planting the seed, or varieties of the same, manner of cultivation, dryness or wetness of the season, or many other causes which may appear small in themselves, but which combined go far toward making the crop a success or a failure.

It is only by following such methods we can acquire the necessary information to conduct farming intelligently and profitably, and which every farmer should endeavor to obtain from his own experience.

Aaron Low, James P. King, Jos. S. Howe, Franklin Alley—*Committee.*

Digitized by Google

STATEMENT OF H. A. STILES.

Having entered for inspection and premium my crop of Summer English Turnips for the market, it becomes my duty to report some of the obstacles encountered in growing this vegetable the present year. In no season within the history of my experience of twenty years in turnip culture, has it come so near a failure as the present one.

Turnip seeds were sown the last days of April and the first of May, and germinating rather quickly, which is favorable to growth, seldom appeared more promising for a bountiful harvest. The time of harvesting and marketing the early turnip is from the 20th of June until the 20th of July, and before the former period the effects of dry weather were visible on portions of the crop, which continued with extreme heat to check the growth, injure the quality of the turnip, and seemingly lessen the quantity fully one-half to what it would have been with seasonable rains.

The most important requisite to the successful culture of the crop is suitable land. Gardeners sometimes assert that they can raise just as good, clear, and nice a turnip in Autumn as can be grown. True, they may be grown *clear* upon land unfit for the early turnip, but a difference may be noticed in the quickness of growth, fineness of texture, and in its buttery flavor, and glossy whiteness.

The best varieties for table use are the Strap Leaved, White, and Red Top. Questions are often propounded like the following: What kind of land do you have? Do you use *barn* manure or *fertilizers?* Do you sow in drills or broadcast? Do you salt your lands? You must have some secret of which you will not inform us, for we cannot get an early turnip fit to eat.

Having no secrets to reveal, I will briefly state my method of culture this year. In the first place, my land is light, sandy, loamy, and leachy; is quite level and free from stones, and has been under cultivation a hundred years or more.

Digitized by Google

Lot No. 1 contains about one hundred rods. Ploughed April 20th, using the Michigan Sod Plough. It has been in grass for the last eight years with no manure. Ploughed to the depth of nine inches. Applied evenly upon the furrows about three cords of barn cellar manure, made fine, and harrowed it in with the Randall Harrow. Applied two hundred pounds of Bradley's Superphosphate of Lime, harrowing again with Randall, and smoothing the surface with the brush, the land was ready for the seed. Sowed at the rate of one pound to the acre, of seed, in drills eighteen inches apart, and after the rough leaf appeared, the plants were left six inches apart.

Lot No. 2 contains eighty-seven rods. This lot has been in turnips two years. Applied two and one-half cords of barn manure with 175 pounds of Bradley's Superphosphate of Lime, giving the land the same treatment as No. 1.

Lot No. 3 contains eighty rods. This lot has been in turnips one year. No barn manure was used on this lot. After harrowing with the Randall, I spread by hand broadcast on fifty rods of this lot, one bag of the *Stockbridge Fertilizer*, of the formula recommended for the *Ruta Baga* Turnip. Weight of bag, 200 lbs. Cost, $6. On the remaining thirty rods spread 100 lbs. of Bradley's Superphosphate, and harrowed both lots with the Randall harrow.

There was not much difference to be observed between the turnips side by side. Have formed a favorable opinion of the Stockbridge Fertilizer, and think it *fully equal*, if not superior, to Bradley's, for turnips. Turnips are taken from the ground when about three inches in diameter. After being trimmed and washed, using a brush, are put in bunches containing five in number. June 20th, took from the ground forty bunches, and about six hundred before the fourth of July.

Sold mostly in Lynn and Boston markets, about six thousand bunches, for which I received $300. Gathered in October, for stock feeding, 115 bushels. Value in cellar,

Digitized by Google

12 1-2 cents per bushel. Total, $14.37 1-2.

Judging from the past, and taking an average season, about 90 bushels, or 4000 bunches, would have been fit for market in July.

Cost of Ploughing 267 rods,	$ 8 00	
" " barn manure, 5½ cords, and applying same,	50 00	
" " fertilizers,	20 00	
" " weeding and hoeing,	50 00	
" " cleaning turnips and marketing,	70 00	
		$198 00
Cr. by 6000 bunches,	300 00	
" " 115 bushels at 12½ cents,	14 37½	
		$314 37½
Balance,		$116 37½

STATEMENT OF HAYDEN A. MERILL.

The piece of Cabbage which I enter for premium, was on broken up sod, and was planted about the first of June with Fottler's Brunswick, with the exception of about one-fourth part, which was set out with plants of the same variety, which I procured of one of my neighbors.

I used two cords of compost in the hill. The compost consisted of one-half muck, the balance being horse and cow manure, night soil, fish waste, sea manure, with about 175 pounds of Muriate of Potash, the whole being well mixed and fermented. The cost of the compost could not, to the best of my calculations, have been over six dollars a cord. And the same estimate would apply to the squash, with the exception of the cost of the potash.

I have marketed only one hundred and fifty of the cabbages, they bringing eight cents each. They were sold two weeks ago, and would probably at this time have brought from $10 to $12 per hundred.

I have counted the heads, and find 1200 that would sell for about $10. per hundred, (the average weight of which

Digitized by Google

being 16 lbs., four hundred that would sell for about $5 per hundred, one hundred that would sell for about $2 per hundred, and a few that would not be marketable, they being hills that, owing to the dry weather, had to be set out twice, and did not therefore have time to mature.

The piece was measured by Mr. Appleton, and, according to the certificate, measured one-half acre.

COST OF RAISING CABBAGES.

To ploughing and preparing land,	$ 4.00
To sowing seed and setting plants,	3.00
To cost of seed,	1.25
To cost of manure,	17.25
To hoeing twice,	5.00
To cost of marketing, and estimated cost of marketing the rest,	24.00
	$54.50

VALUE OF CROP.

To 150 heads, at 8 cents per head,	$ 12.00
To 1050 heads, at 11 cents per head,	115.50
To 400 heads, at 5 cents per head,	20.00
To 100 heads, at 2 cents per head,	2.00
To fodder,	12.00
Value of crop,	$161.50
Cost of raising,	54.50
Net profit,	$107.00

The piece of Squashes which I enter for premium to the above Society, according to statement of H. A. Appleton, sworn surveyor, measures ninety-five rods, on which I have grown seven tons of Marrow Squashes, which, with the exception of one-half ton, have been fine marketable squashes. I sold the earlier squashes, about two tons, at $1.50 and $1.25 per

Digitized by Google

cwt. Then sold at $1.00 about one and one-half tons. The remaining three tons were sold at $15.00 per ton. The remaining one-half ton was sold at less price, and fed out to the cows.

I used four cords of compost, spreading on and harrowing in with Randall's harrow, three cords, and putting the remainder in the hill. The compost consisted of one-half muck, with the balance made up of horse and cow manure, night soil, and a small amount of fish waste. It was well thrown over and pulverized. The land has been up for several seasons, and was a very dry piece. The latter fact, considering the dry season, was against the raising of a larger crop.

COST OF RAISING SQUASHES.

To ploughing and preparing land,	$ 6.00
To sowing seed,	.50
To cost of seed,	2.00
To value of manure,	24.00
To hoeing twice,	5.00
To harvesting and marketing,	25.00
	$62.50

AMOUNT OF CROP.

Two tons, at $37.50 per ton,	$75.00
One and one-half tons, at $20 per ton,	30.00
Three tons, at $15 per ton,	45.00
One-half ton, at $10 per ton,	5.00
Value of crop,	$155.00
Cost of raising,	62.50
Net profit,	$92.50

STATEMENT OF DANIEL CARLETON.

The half acre on which my Onions grew was divided into two pieces by your Committee—one piece of forty-one rods,

Digitized by Google

and one of 39 rods. On the first piece, the crop of 1874 was onions. Barn cellar manure, at the rate of about twenty-five loads, and Cumberland Superphosphate, at the rate of half a ton per acre, were used. On the second piece the crop and manure for 1874 were the same as on the first. In 1875 the crop on both pieces was onions; the first piece was manured with Cumberland Superphosphate alone, at about twelve hundred pounds per acre. The second piece was manured with barn cellar manure alone, at about thirty loads per acre. For the crop of 1876, the first piece was manured with about twenty-five loads of thirty bushels each per acre, being a compost of meadow muck, and cattle, horse and hog manure, ploughed in, in the fall of 1875. The yield on this piece was 158 bushels and a fraction over.

For 1876, the second piece was manured with Cumberland Superphosphate alone, at about 1500 pounds per acre, applied just before sowing the seed, and raked in. The yield on this piece was 136 bushels.

The soil of both these pieces is a dark strong loam, with a rocky subsoil. The land was ploughed once in the fall of 1875, and twice this spring, at the last time ploughing six furrows at a time, and then raking level with a common hay rake. The seed was sown on the 8th day of May with Matthew's Seed Drill, in rows fourteen inches apart, using four and a half pounds of the yellow Danvers seed per acre. The crop where the superphosphate was used ripened the earliest. Where the manure was used, the onions had been just pulled when viewed by your Committee, and then looked rather green, but they all dried off, so that they were housed before the close of September. The onions were harvested by pulling them by hand, and throwing three rows together, and letting them lie a few days; then turned them by raking six rows together, and, when thoroughly dry, carted them to the barn, where they were topped, and every basket of onions weighed, allowing 52 pounds per bushel. The yield of the crop was somewhat affected by the ravages of the maggot.

Digitized by Google

The onions, however, were very sound and hard, and of good size, there being but few small ones and scarcely any scullions. The cost of raising crop on the half acre was as follows, viz. :—

To plowing and preparing land,	$ 9.00
To sowing seed,	1.00
To cost of seed,	3.50
To Superphosphate,	8.50
To value of manure on the land,	16.00
To weeding five times,	25.00
To harvesting,	20.00
	$83.00
Amount of crop, 294 bushels, at 75 cents,	220.50
Net profit,	$137.50

STATEMENT OF FRANCIS R. APPLETON, OF IPSWICH.

The half acre of Ruta Baga Turnips, which I enter, was a part of a field of about one acre. They were planted on the middle of June, in drills two feet and a half apart. The soil is a heavy clay loam, thoroughly drained with tile, and has been in grass for the previous years. It was ploughed last Fall, and again this Spring, and thoroughly harrowed. To prepare the land for the seed, trenches were made with the plough, and barn-yard manure put in them,—twelve ox-cart loads in all for the half acre. These were then covered by the plough, making a ridge where before was a trench, and rolled. Just before the trenches were covered, there was sown upon the barn-yard manure a mixture of ashes, superphosphate of lime, plaster, and Brighton manure, in all six bushels. The seed was put in with a hand-drill, care being taken to do this immediately after the rolling. It is important that the above operations should follow one another in quick succession, leaving the least possible interval between

Digitized by Google

the stirring of the soil and the planting of the seed. The plants were thinned to about ten inches distance from each other. They were cultivated by a horse once, and the thinning and weeding was done by a man with a common hoe. The yield from the half acre was 256 bushels; weight sixty-three pounds per bushel, or over eight tons in all for one half acre.

This result is not satisfactory, nor does it equal the average crop of this farm, owing to the long drought. No rain of any account fell for two months after the seed was planted.

The half-acre of Mangold Wurtzels which the Committee viewed, was a part of the same field, as described in the above statement in reference to my crop of Ruta Bagas. The seed was planted in the middle of May, and the ground received the same treatment as the Ruta Baga crop, excepting that they were cultivated, weeded, etc., twice during the season, and the land had upon it in the season of 1875, a crop of Indian corn, and in the three preceding years, grass.

The yield of the half acre was five hundred and sixty bushels, weighing sixty pounds per bushel, or nearly seventeen tons in all. The superiority of this yield over that of the Ruta Bagas, is greatly owing, probably, to the month's earlier planting, which gave the seed the benefit of the May rains.

STRAWBERRY CROP.

The Trustees awarded to Benj. F. Huntington, of Amesbury, for his crop of Strawberries, the premium of $10.

STATEMENT OF BENJ. F. HUNTINGTON.

The crop of Strawberries which I present for premium, was raised on ninety rods of land the present year, on land

Digitized by Google

which was the preceding year planted with potatoes, and in the spring of 1875 was manured with five cords of stable manure, and fifty bushels of ashes, which I estimate at one half the cost, the other half remaining in the soil for future crops. The plants were set in May, 1875, in rows three feet apart, and twenty inches apart in the rows, making beds five and one half wide, and paths one and one half wide. The runners were allowed to grow and fill the space between the rows. In the autumn, about the middle of November, the whole piece was mulched with a light coat of pine leaves, which was left on the following summer. On top of the pine leaves was put a good coat of meadow hay, which was removed about the middle of April.

The manure was harrowed in with a Randall Harrow, (which, by the way, is an excellent tool to have on a farm.) When I entered my crop, (about the middle of June,) the plants were looking finely, but soon after, the rust injured the vines very much, so that I cannot report over two-thirds of an average crop.

The following is the cost of cultivation :—

Preparing ground, setting plants, weeding, &c., 33 days	$49.50	
Picking 2700 boxes, at 2½ cents,	67.50	
Marketing,	15.00	
Manure and ashes,	25.00	$157.00
Credit by 2700 boxes of berries, at 15 cents,	$405.00	
2500 plants sold,	12.50	$417.50
Balance in favor of crop,		$260.50

From actual measurement I hereby certify that the above crop covered ninety rods of land.

JOSEPH MERRILL.

Digitized by Google

TREADWELL FARM.

The Committee on the Treadwell Farm respectfully submit the following report:—

The farm is still under the management of Mr. Philbrook, by direction of Thos. W. Pierce, Esq., the lessee of the farm. The Committee is pleased to be able to state that the farm has been well cared for during the past season. It has been kept clear of weeds, the cultivated crops have been bountifully dressed with barnyard manure and other fertilizers, and the products have been very satisfactory, notwithstanding the severe drought of last summer.

By permission and under direction of the Committee, very many bushes, that of late years have been encroaching upon the borders of the fields along the walls, have been thoroughly eradicated, improving the appearance of the farm as well as its power of production. Desirous of aiding Mr. Pierce and his able foreman, Mr. Philbrook, in their efforts to improve the appearance as well as the utility of the farm, the Committee has with pleasure fulfilled the instructions of the Trustees, in making all necessary repairs to the buildings, preparatory to painting. The buildings were painted with one coat this last fall, and it is proposed to put on the second coat in the spring, after which it is believed that no member of the Society need be ashamed to direct the attention of a stranger to the farm of the Essex Agricultural Society.

The experiment begun two years ago for the purpose of showing the comparative value of barnyard manure, and of two popular commercial fertilizers, has been continued this year. By referring to the reports of the two years previous to this, it will be seen that one* acre of land was divided into four equal lots. No. 1 was manured with an amount of Russell Coe's superphosphate, which should equal in cost barnyard manure at the rate of eight cords to the acre. Lot No.

*By a clerical error it was made to read *two* acres in the two reports above referred to.

Digitized by Google

2 was manured with Brighton Abattoir fertilizer, of the same cost. Lot No. 3 was manured with barnyard manure, at the rate of eight cords per acre. Lot No. 4 had no manure at all. All the above fertilizers were applied the first year with nothing else. The product of the lots for each of the years is as follows:—

Lot No. 1, first year, 1510 lbs. Barley; second year, 400 lbs. Hay; third year, 130 lbs. Hay. Lot No. 2, first year, overgrown with charlock; second year, 1200 lbs. Hay; third year, 460 lbs. Rowen, 280 lbs. Hay. Lot No. 3, first year, 1890 lbs. Barley; second year, 1300 lbs. Hay; third year, 530 lbs. Rowen, 375 lbs. Hay. Lot No. 4, first year, 1310 lbs. Barley; second year, 382 lbs. Hay; third year, 75 lbs. Hay.

An experiment with the so-called Stockbridge Chemical Fertilizer has been conducted on the farm during the last season, upon a piece of thin plain land that had not been manured for several years,—land that would probably not yield over 20 or 25 bushels of corn per acre without manure.

The formula for 50 bushels corn per acre in addition to the natural production without any fertilizer, (which cost $27.00) was applied to a part of the land, and on an adjoining part of the same quality green barnyard manure was applied, at the rate of five cords per acre. The part manured with barnyard manure ripened somewhat earlier, and when harvested the stover was somewhat drier than the other part; so that really there was but very little difference in the amount of stover grown upon the different lots. One-quarter acre of that grown with the chemical formula produced 35 bushels of ears at the rate of 70 bushels shelled corn per acre, and 1005 lbs. stover. The quarter acre grown upon the barn manure, produced 45 bushels ears, at the rate of 90 bushels shelled corn per acre, and 920 lbs. of stover.

The total amount of products of the farm the last year, is as follows:

Digitized by Google

1 acre of Cabbages yielded 2522 heads; 1 1-2 acres of Carrots, 820 bushels; 1 acre 30 rods of Mangold Wurtzels, 480 bushels; 2 acres of Potatoes, 119 bushels; 1 1-4 acres of Onions, 60 bbls. first quality, 28 bbls. small; 5 1-4 acres of Corn, 630 bushels ears; Beets, 100 bushels; Apples, 30 bbls.; Cider Apples, 70 bushels; 2 acres of Hungarian Grass, 5 tons; Corn Stover, 10 tons; Corn Fodder, cured, 4 tons; English Hay, 18 tons; Meadow Hay, 19 tons.

There have been applied to the farm 266 ox-cart loads of barnyard manure, equal to 99 3-4 cords; 20 bushels Ashes; $80 worth of commercial fertilizers.

For the Committee,

BENJAMIN P. WARE.

ESSAYS.

COMPARATIVE VALUE OF CROPS AS FOOD FOR CATTLE.

BY ANSEL W. PUTNAM, OF DANVERS.

During the year 1875, the American Agriculturist, in articles from Prof. Atwater, gave to practical farmers the fundamental principles by which they may determine the value of crops as food for cattle.

The corner-stone upon which economical feeding rests, has been discovered, and is composed of albumenoids and carbo-hydrates mixed in certain proportions. For dry cows, and oxen at rest, the ratio may be one of albumenoids to eight of carbo-hydrates. For oxen at hard work, and milch cows, one of albumenoids to four or five of carbo-hydrates. German experiments have proved that it is as important to have these elements in about the right proportion to get good results from feeding, as it is to have lime and sand in about the right proportions to make good mortar.

Digitized by Google

If crops having an excess of albumenoids are fed by themselves, a part of the albumenoids will be lost, for the want of carbo-hydrates to unite with, as a part of the lime will be lost in making mortar if there is not the proper amount of sand for the lime to unite with. Also if crops having an excess of carbo-hydrates, are fed by themselves, a part will be lost.

As it is a loss to the bricklayer to have pebbles in the mortar, that he must pick out from under every brick before it can be laid, so it is a loss to have large amounts of indigestible material mixed with cattle food.

Perhaps good food for cattle may be defined as that in which the albumenoids and carbo-hydrates are in the right proportion, and a large per cent. of the fodder digestible.

By mixing cotton seed meal with wheat or rye straw, all the digestible carbo-hydrates of the straw can be utilized; but as about one half of the straw is indigestible, under any conditions, it will not become first-class food, even with the cotton seed mixed with it.

The scientific question of to-day is not, "What is any crop worth when fed by itself, as compared with good English hay?" but rather, "How can we grow, harvest and mix other crops so as to make them equal to English hay?" Good pasture grass,—that is, grass that is eaten in a week after it is grown,—is the most perfect food for cattle. The elements are in the right proportion, it is easily digested, and a very large per cent. of it is digestible. Very early cut, well-cured English hay, is the best dry food, if but one kind is to be used.

For making milk, in ripe hay,—except, perhaps, that made from Hungarian grass,—in corn fodder, and in corn meal, there is not enough of the albumenoids to use up all the carbo-hydrates. It is probable that a part of the nutritive value of much of the corn meal, corn fodder, English hay,—from being too ripe,—salt hay and fresh meadow hay, fed in Essex County to-day, is lost for the want of albumenoids.

Digitized by Google

Prof. Atwater says, " There are two great sources of loss in our common systems of feeding. One is that we often fail to have enough albumenoids in the food to secure the most complete digestion. Another is, that forage crops are not cut when young and easily digested, but are allowed to stand until they are nearly ripe, and much of their material has become indigestible, and of course nearly useless as *nourishing* food."

I look upon the discovery of this loss in stock feeding, together with the discovery of how this loss may be saved, as one of the greatest discoveries of modern times.

Decorticated cotton seed meal and Hungarian grass are sources from which plenty of albumenoids may be drawn to utilize our carbo-hydrates. 100 lbs. of the best cotton seed meal has 28 lbs. of digestible albumenoids, and 17 of carbo-hydrates. Now as it needs but 4 lbs.,—even when used for making milk,—of albumenoids, for its own carbo-hydrates, it has 24 lbs. of surplus albumenoids in every hundred pounds, that may be used to utilize the carbo-hydrates of crops deficient in albumenoids. Take first quality salt hay, for example,—it has 3.4 lbs. of digestible albumenoids, and 41.6 of carbo-hydrates in 100 lbs.; it needs, say 10 lbs. of albumenoids to make its 41.6 lbs. carbo-hydrates available for making milk, or about 6 lbs. in 100 short; the 24 lbs. surplus in 100 lbs. of cotton-seed will supply what 400 lbs. of salt hay needs to make it good milk-making food.

Hungarian grass has nearly twice as much albumenoids as it needs for its own carbo-hydrates; therefore a ton of good early cut Hungarian grass mixed with a ton of *good* salt hay, will *probably* make as much milk as two tons of average English hay.

There is much probability, as yet, about the proportions in which to mix our crops to get the best results; the quality of crops vary so much when grown and harvested under so many different conditions, that there will be many problems

Digitized by Google

for each farmer to work out for himself, after getting all the information he can from the chemist and the experiment stations. My object in writing is to induce the farmers of Essex County to work out the problem, how best to utilize the fodder they have or can get most conveniently. Let each one solve the problem for himself, and follow the practice best suited to the conditions of his farm.

I wish to call attention to *principles*, and do not intend,—for I am not prepared,—to give rules for any one to work by. Dr. E. L. Sturtevant, in the July number of the Scientific Farmer, gives us a very valuable article on Hungarian grass, and says: "As the feeding values of articles are usually calculated on the percentage of albumenoids, these analyses would indicate a higher feeding value than we usually see ascribed to millet. It is hard to believe, but it must be at least equal, and probably better, than grass; but if to such an extent as is here shown, whence the discrepancy of opinion in the practical estimates?" As I understand the principles given us by Prof. Atwater, the analysis of Hungarian grass does not show that it is better, or even equal to grass, if fed exclusively by itself, for then about one-half of its albumenoids are lost. The beauty and value of good grass, is, that the nutritious elements are in the right proportion; it is good food by itself; it asks nothing from any other crop, and it has nothing to give to any other crop. But to get the full benefit of Hungarian grass, it must be used with some crop deficient in albumenoids.

Dr. Sturtevant asks, "Whence the discrepancy of opinion in the practical estimates?" I answer, because of the different conditions under which it is grown, harvested and fed. Some let it get quite ripe,—think it better so than green,—and if it is to be fed by itself it may be well to let it stand longer than most crops, for after it is ripe it probably has enough albumenoids to utilize all its carbo-hydrates; but there is a loss in letting it ripen, because a much larger per-

Digitized by Google

cent. becomes indigestible. A better way is to cut it young, and then feed it with something that needs what it has to spare.

One important and fundamental principle which underlies the securing of good fodder, has been discovered and clearly proved to be correct, by the German experiments. It is this: The younger any crop is cut, the greater its ratio of albumenoids, and the greater the per cent. of digestible to indigestible matter. This shows us why it is that our cows give us most milk in June, when the grass is growing fast enough for them to fill themselves one day with what grew a few days before. They always eat the youngest that is to be had, and the younger the grass they eat, the more milk they will give. I know Dr. Nichols, a chemist and practical farmer, and Dr. Loring, a practical and scientific farmer, have taught the reverse of this.

Dr. Nichols, at the meeting of the State Board of Agriculture, at Fall River, said, "I find that corn fodder, sown broadcast, is perfectly worthless. I demonstrated that practically by experiments upon my herd of cows, and I demonstrated it positively by an analysis of the plant. The results of my observations and researches, up to the present time, have been these: that in raising fodder corn, we must allow it to reach a certain point before we cut it. In the first place we must sow it in drills; it must have access to sunlight and air, and it must be allowed to proceed to a certain stage,—and that stage is the formation of the ear,—before we begin to cut it. Corn fodder fed to animals before that period, will not increase the milk."

At the same meeting Dr. Loring said, "Now every kind of grass has just so much nutriment in it. You want to get rid of the refuse, the woody fibres, and save the sugar, starch, and soluble salts, that go to make up the nutritive properties of the plants. * * * Immature grass is very deficient in the nutritive elements that I have spoken of; every chemist

Digitized by Google

knows it. * * * You cut, for instance, a large crop of rowen, which is entirely immature, and every farmer knows that it is the most unprofitable thing he can put into his animal. An animal fed on rowen will make an abundance of everything else but milk or meat."

Thus Dr. Loring and Dr. Nichols, in 1871, called both chemistry and practice before the State Board as witnesses, to prove that immature grass and immature fodder corn are not good. Although the testimony of these witnesses now looks to us practically erroneous, yet from a certain scientific standpoint, they were then, and are now, scientifically correct; and my object in making the quotations, is to show wherein they are correct, and where erroneous. Take the corn sown broadcast, for example: It may be very thick, and it may be of the Southern or Western variety, and both practice and chemistry have proved that it may be cut young, and make *first quality* milk-producing food; but let the same crop stand a few weeks longer, and it will get into a condition that "will not increase the milk."

There is a time in the growth of the corn plant, when it has grown all the leaves that belong to the butt stalk. Up to that time it has been the work of the plant to grow leaves filled with elements to be used later in the growth of the plant. After all the leaves that belong to the butt stalk are grown, then the process of hardening the stalk begins. Indigestible matter is rapidly formed, the nutritive matter that was in the leaves is rapidly drawn upon by both stalk and root, and the leaves become like a honey-comb, with the honey drawn out. Now if we wait until this change has taken place before we use our thickly sown fodder corn, it is nearly worthless; but if we use it before it has finished growing its butt stalk leaves, every part of it, from tip to root, is as good as any part is when the ears are formed.

There are two ways to grow good fodder-corn, and the way Dr. Nichols recommends is one of them. He says, "We

Digitized by Google

must sow our corn, the sweet variety, in drills, and not sow it too thick." One reason why we get good fodder in this way is, by sowing thin in drills, the corn has a chance after it has grown its butt stalk leaves, to go right on growing top stalks and husks, and if we begin to use it before the top stalks and husks have poured their contents into the ear, we get the same quality of fodder that we get before the butt stalk leaves discharge their contents.

Another reason is, by using the sweet variety, the stalks do not become as hard and indigestible as when the harder varieties of corn are sown.

But my cows, and the French chemists, tell me there is a way to get as good fodder, and in about one-half of the time, and that is to sow Southern or Western corn thick, and use it before it has finished growing its butt stalk leaves.

There are two ways to have *very poor* fodder corn. One is, to sow it thick and not use it before the stalks have hardened. If the corn is very thick, it cannot go on and make that perfect growth of top stalks and husks which make such good food when it is thin.

Another way is to sow the Western corn thin, and let it stand until the ears are formed, and the butt stalks are too long for cord wood, but not quite large enough for good saw-logs. This same principle of discharging the contents of the leaves applies to Dr. Loring's rowen. As I understand the laws of growth, the object of the first growth of leaves in the season is to help grow seed stalks and mature seed; but as far as the welfare of the plant is concerned, the late growth, or rowen, is mainly to strengthen the roots for the next season.

Mr. Johnson, of Framingham, at the same meeting in Fall River, said, "August is the time for our grass to start for next year." Very few farmers as yet give the grass roots the benefit of that start, or anything as a substitute for it. Rowen may become over-ripe for fodder, as well as the first growth, or as fodder corn may, but the contents of the leaves, instead of going into stalks, return directly to the roots to be

Digitized by Google

utilized in the spring, by giving the plant a thrifty start. If we wait until this return process has taken place before we cut our rowen, we have a lot of empty cells. But cut it when the leaves are full, dry it well, and it will be as palatable and profitable to the cow that eats it as the full honeycomb is to the dearest lover of sweets that can be found.

Two years ago I was sadly disappointed by losing the milk from a heavy second crop on a field mowed early in June, and which I intended to feed down close and plough in the fall. The season was wet, grass grew finely through the summer, and as I had plenty of green food without pasturing that field, I thought I would save it till after I cut and fed the rowen on the later cut fields. When I turned the cows into that lot, I supposed I should get an increase of milk; instead of that, ten cows shrunk twenty quarts a day—an average of two quarts each. It took me some time to answer to my own satisfaction why. The solution, as I understand it, can be gathered from what I have said about over-ripe rowen.

All differences of opinion as to the comparative value of crops as food for cattle, will be harmonized when all conditions relating to the different crops are well understood, and all will be found valuable when we know how best to utilize the good that is in them. The questions that arise about full and empty leaves are important, and we need more knowledge before they can be correctly answered. The mixing of different crops to utilize the surplus elements of each, is a very important matter, and I wish particularly to call the attention of such as have salt hay and river meadow hay to use, to the fact that if cut at the right time and well cured, the carbo-hydrates in them are worth as much per pound as in English hay. The best quality of mixed salt hay, according to Prof. Storer, of the Bussey Institute, has 41.6 lbs. of carbo-hydrates in 100 lbs.; black grass has 43.8 lbs.; best upland hay has 43.1; medium quality has 41.1; fresh meadow hay has about the same; the best upland hay has about 9 lbs. of albumenoids in 100 lbs.;

Digitized by Google

and the best salt hay and meadow hay have about 3 lbs. 6 lbs. of albumenoids in 100 lbs. is mainly what makes the best upland hay better than the best salt hay. Medium quality of upland has 5.4 lbs. of albumenoids, 41.1 of carbo-hydrates, ratio about 1 to 8,—the proportion that is right to keep dry stock in fair condition. Practice for years has proved that dry stock will do very well on plenty of medium quality upland hay. As salt and meadow hay need but two lbs. additional albumenoids per 100 lbs. to make the ratio right for dry stock, and as cotton seed meal has 26 lbs. in 100 to spare, if fed to dry stock, it follows that 1300 lbs. of salt hay, or good river meadow hay, mixed with 100 lbs. of cotton seed meal, is equal to 1400 lbs. of medium quality upland hay. If this is so,—and I ask the farmers of Essex County to prove that it is or is not,—then it must be economy for those farmers who have been in the habit of wintering their stock on salt and meadow hay, and have them very poor in the spring, to sell part of their hay, buy cotton seed, utilize the carbo-hydrates of what they do feed, and have their stock fat, sleek, healthy and happy, profitable to their owners, and a credit to the county. If this essay shall be the means of leading one farmer to feed his stock so as to better supply their wants and make them more comfortable, the writer will be well paid. It is well to know the conditions under which wheat bran is more economical than corn meal.

When they are fed so as to utilize all their nutritious elements, their value is as five to seven; thus, if wheat bran is worth $20 per ton, corn meal is worth $28 per ton; but as the bran has a surplus of albumenoids, there may be conditions in which a ton of wheat bran will make more milk than a ton of meal; thus the farmer needs to know the composition of the material he is to feed with his grain, before he can tell which it is best for him to buy, at the market price.

Knowledge of how and when to use roots for stock, is important. To feed any of the beet family with average quality

Digitized by Google

English hay and corn meal, is very unprofitable, because beets are deficient in albumenoids, much more so than turnips, but all roots can be used to the best advantage with poor hay and straw, together with grain rich in albumenoids. This is so because in poor hay and straw the per cent. of indigestible organic matter is large, in all root crops it is small, and by feeding them together, the per cent. of indigestible matter is reduced; and if care is taken to get the proportion of albumenoids and carbo-hydrates right, roots are profitable. This shows us why it is that the English buy so much of the American oil meals. Their climate is well suited to turnip growing; they feed turnips with their straw to get the proportion of digestible matter right, and feed oil meal to get the proportion of albumenoids right. Whether it is economy to grow roots, depends upon what one has to feed with them.

There are other branches of this subject which it would be pleasant to follow, but space forbids.

ORIGINATING NEW POTATOES.

BY JAS. J. H. GREGORY, OF MARBLEHEAD.

Since the general prevalence of the disease popularly known as the "potato rot," which virtually annihilated some standard varieties, and so seriously affected the health of others as to render profit in their cultivation precarious, the public have given great attention to the originating of new varieties, with the object of obtaining in these a constitutional vigor that should manifest itself in greater productive powers, better quality of tuber, and greater capacity to withstand disease. The result of these most laudable efforts has been to give, within the past dozen years, thousands of new varieties of potatoes.

Among these about two dozen stand out prominently as

Digitized by Google

decided acquisitions, and have nearly replaced all the kinds known previous to that time as standards. How vast a gain these new varieties, from their greater productiveness, have been to these United States, may be inferred from the fact that an annual difference of but a few bushels to the acre makes an addition of millions of dollars in the agricultural returns. Another fact bearing on the importance to agriculture of encouraging the originating of new varieties, is found in the fact that, at the present day, most if not all varieties appear to be so far weak in their constitutions that they deteriorate either in yield, quality, or keeping properties, earlier in their history than was the case with the standard kinds before the dread "potato rot" appeared. There being, therefore, this necessity for new varieties, it appears but wise that all who make efforts thereto should be informed of such facts as observation and experience have to contribute. It is therefore proposed in this paper to contribute a few facts, observations, and reflections, bearing on this subject, to the end that efforts to produce new seedlings may be more intelligently directed than is often the case.

If the various new seedlings that have become established in the community by reason of their real merits, be classified, it will be found that nearly all of them originated in a latitude north of southern New York. If with this fact, we connect one other, viz., that the natural home of the potato is on the high, cool, table lands of South America; and yet a third fact, that taking any variety of the Irish potato, we find that, all other conditions being equal, the farther north it is grown, the better is its quality, I think we may conclude that to develop the best results possible in raising new seedlings, the experiments had best be confined to latitudes north of central New York. If, now, we analyze this matter a little farther, and classify the various new varieties that have become standards, and do this in the light of the number of seedlings raised by seed cultivation, to each new one of real merit obtained, we shall find that by far the greater success has been

Digitized by Google

obtained in the northern section of this area. In support of this position, we need take for illustration the experiments of the lamented Goodrich of New York, and of Albert Breese of Vermont. Mr. Goodrich, out of thousands of seedlings, obtained half a dozen standard varieties, while Mr. Breese, out of less than a dozen, obtained at least three seedlings that, either universally or in large sections of country, are recognized as standard varieties. Such wonderful results as were obtained by Mr. Breese, are, it is true, rare; but taking the fact in connection with another, that so many of the standard seedlings, and formerly new before the public, such as the old Chenango, Orono, Excelsior, Early Vermont, and Snowflake, originated in the northern portion of this area of country, I think we may advance a step farther in our suggestions, and state that within the area north of the latitude of southern New York, those dwelling in the northern portions have probably the best chances to originate first class seedling potatoes.

We now propose to discuss, 1st, What is required in a new seedling to make it an acquisition? 2d, What steps are most likely to produce such a seedling?

1st. What is required in a new seedling to make it an acquisition? The requirement in a potato to be accepted by the public as a standard, is, that while it equals standards already accepted in other characteristics, it shall also excel them in one or more. Now the characteristics that make up a model variety, relate to yield, quality, flavor, freedom from rot, shape, size, color of skin, number of eyes, depth of eye, color of flesh, keeping properties, soundness at the heart, earliness or lateness of maturity, manner of distribution in the ground, and habit of growth of the vines. I think that it may be assumed that before any originator has the right to send forth any new variety as an acquisition, he must be able to demonstrate that his protege is a decided acquisition in some one of these characteristics and fully up to the average in the remainder. In determining this, he must make more

Digitized by Google

than a comparison on his own grounds, for from the discrepancy between the results that some originators state they find in a comparison between their seedlings and the standard sorts, and the results that others find when they make the same comparison, it is evident that it is true of seedling potatoes, as with seedling strawberries, new varieties will often do their best on the land where they originated. I would here suggest that it may be a wise step for growers of new varieties to state the kind of soil in which they originated, as the point is not yet settled as to whether or not new sorts do their best in the same soil on which they originated.

From an experience in testing hundreds of seedlings sent to me from different States, in the course of several years, almost all of them claimed as decided acquisitions, by their sanguine originators, I deduce the following suggestions relative to the various characteristics required in a new seedling before its claim to be admitted as a standard variety should be allowed. Taking them in the order given, the yield, under good cultivation, should be *at least* two hundred bushels to the acre. Fancy cultivation of small area will at times give a yield of three or four hundred bushels to the acre, when the same variety, on good potato soil, with good average manuring and cultivation, will fail of yielding two hundred bushels. The flavor and quality, by which latter word I more especially mean dryness, should be up to such a standard as the Jackson White, or Chenango of olden time. For a standard of shape, a medium between the standard oblong and round varieties is most desirable, as there is the least waste in the paring of potatoes of this form, while a larger proportion of the smaller ones will be marketable. Here let me remark that I have noticed that oblong potatoes that are usually equally large at each end, oftentimes under unpropitious circumstances, grow smaller in the middle than at the ends, which makes any potato unmarketable. Another fact noted is that any variety that tapers to a small and rather projecting point where the

Digitized by Google

stem is attached, is apt to sport in its form, and is unreliable as a cropper. Another fact is, that while all varieties of potatoes that have had their growth stopped by drought before maturity, make the remainder of their growth when they start anew after a rain, by additions which farmers designate by the word "prongy;" some varieties are far more inclined this way than others. In size, while it is absolutely necessary that they shall average as large as the average of accepted standards, it is also necessary that the large ones shall not be excessively large, and the small ones not more numerous than those of the average of received standards. The color of the skin is much a matter of fashion. When the Early Rose first came before the public, many prominent dealers said it would not be accepted, as the public wanted a white-skinned potato, after the style of the Orono. Now I have a letter of inquiry for a potato equally good as a white variety, cultivated by an extensive grower, but with a change of the color of the skin to red, as the Early Rose has trained the public to red as the standard of color. Of the eyes, an unusual number, and especially an unusual depth, is undesirable, from the greater difficulty and greater waste to the housewife when peeling for the table. The color of the flesh should be the most snowy white, except it may be when designed for a Southern market, where I understand the general preference is for a yellowish fleshed potato of a waxy structure.

Hollowness at the centre, except in overgrown specimens, should be a fatal fact. Good keeping properties demand that they should not acquire bitterness with age, the capacity to keep free from sprouting, other conditions being equal, turning, as far as my experience goes, on the earliness or lateness of the variety. Of the distribution of the potatoes in the hill, compactness is desirable, as the labor of digging is much lessened, and also the liability to cut the tubers. This compactness of the Early Rose, lying in a mass as in a pocket, is an excellent characteristic, while with the Shaker Fancy it is an

Digitized by Google

illustration of an erratic distribution. Of the habit of growth of the vine, the short jointed, compact growth of which the Excelsior is a good illustration, is desirable, as such a habit admits of greater ease in the cultivation of the crop.

While these are the desirable qualities in every new seedling which applies to be admitted as a standard, and while many of these characteristics are absolutely essential, yet were a variety presented that excelled to a remarkable degree in the leading points of a good potato, the public would be ready to waive many minor points in its favor.

The late Mr. Goodrich, who had a far larger experience in producing new seedlings than any other man in the United States, gave, as the result of his observation, that a seedling potato was liable to sport in shape until the fourth year; in other words, it did not acquire its true normal shape until the fourth year from the seed. From the great number of seedlings introduced the third year from the seed, it is to be presumed the public lack either faith or information on this point.

Having presented the characteristics of a seedling potato worthy to be admitted among the standard kinds, the question naturally arises, can experience or science help the persevering cultivator to the attainment of such a model? I think each can help somewhat. In my own experience, I have found that there is a great tendency in some varieties to repeat themselves, such, for an instance, as the Orono. And here let me put in a word of advice. It is not desirable to have a seedling follow too closely its parent, for the result is apt to create confusion and dissatisfaction with the public. It is unfortunate that that excellent variety, Early Vermont, should so closely resemble Early Rose; and for this same reason, a dozen or more seedlings of Early Rose, which I have tested the few years past, with the single exception of Early Ohio, have differed so little from their progenitor as to be practically worthless.

The procuring tubers of the native wild stock, on the pla-

Digitized by Google

teaus of Peru, and the raising of seedlings from these, has not, so far as my knowledge goes, given the satisfactory results anticipated. In Mexico, varieties of potatoes are grown which have never suffered from the rot. Should this great plague again become prevalent, this may be a good source to obtain potatoes from which to raise new seedlings.

Science suggests that the pollen of choice varieties might be crossed, and thus choice seedlings be insured; and I have known of one experiment in this direction which promises well, yet the sum of extensive experiments in this direction may be like those of the distinguished Van Mons, of Belgium, with the pear,—from many thousands of trials he secured as result but two or three high class pears; while another cultivator, among comparatively a few chance seedlings, produced more and better varieties than his distinguished cotemporary.

REPORT OF COMMITTEE ON ESSAYS.

The Committee on Essays find it rather difficult to discriminate, in some cases, between the merits of different essays and reports. Five essays were submitted for premium. Three of these did not, in the judgment of the Committee, fairly come within the range of treatises for which the Society contemplated the awarding of premiums. The essays entitled "Reflections," "Farm Homes," and "Progress in the Art of Cultivating the Soil," were all well written and creditable performances, and they all contained thoughts that would be no discredit in an annual address before the Society.

The Committee were also in some doubt regarding the award upon the Reports, several of those for which a premium was not awarded, having been well written and by no means destitute of merit in other respects.

Digitized by Google

The first premium on Essays, of $15.00, is awarded to Ansel W. Putnam, of Danvers, for the essay on the "Comparative Value of Crops as Food for Cattle."

The second premium, of $10.00, is awarded to James J. H. Gregory, of Marblehead, for the essay on "Originating New Potatoes."

The first premium, of $10.00, for Reports, is awarded to Aaron Low, of Essex, for his report on "Root Crops."

The second premium, of $8.00, is awarded to David W. Low, of Gloucester, for his report on Apples, in which he has evidently taken pains to collate testimony of value regarding this crop, the profitableness of which has been a subject of considerable discussion.

The third premium, of $6.00, was a matter of considerable doubt with the Committee, as several of the remaining reports appeared to present claims where there was no very marked preponderance of merit. But it was finally awarded to Francis H. Appleton, of West Peabody, for his report on Vegetables, which contained some practical suggestions regarding the arrangements at shows, that tend to facilitate the annual work of the Committees, thereby lessening the liability to make awards that may not in fact be just, even though made with the best intentions.

N. A. Horton, Daniel E. Safford, Charles P. Preston,—*Committee.*

Digitized by Google

E. H. PAYSON, TREASURER, IN ACCT. WITH THE ESSEX AGRICULTURAL SOC'Y.

1875.	Dr.		
September.	To balance of former account		$669 02
October.	To Bank Dividends	$475 92	
	To Receipts of Exhibition in Danvers, per Report of Committee	1,051 05	—1,526 97
November.	To State Bounty	600 00	
	To State Tax refunded	244 74	
	To Donation from Gen. Sutton,	25 00	
	To amount received from new members, per Secretary's Report	294 00	
	To Donation from F. H. Appleton, Esq	50 00	—1,213 74
1876.			
January.	To Essex R. R. coupons	21 00	
	To Dividend Gas Company, Salem	24 00	— 45 00
April.	To Bank Dividends		502 40
June.	To Rent Treadwell Farm		500 00
July.	To Dividend Salem Gas Company	18 00	
	To Essex R. R. Coupons	21 00	— 39 00
	To amount of unclaimed premiums		272 00
			$4,768 13

1875.	Cr.		
September.	By amount of Premiums and Gratuities awarded by the Trustees		$2,284 00
	By expenses of Exhibition at Danvers, per Report of Committee		1,043 74
	By expense amount on Treasurer's books, as follows;		
	Exhibition	$473 13	
	Printing	541 44	
	Secretary's account	264 25	
	Library Rent, &c	25 15	
	Farm account	13 27	—1,317 24
	By balance to new account		123 15
			$4,768 13

EDWARD H. PAYSON, Treasurer.

Salem, November, 1876.

Digitized by Google

FUNDS BELONGING TO THE SOCIETY.

	Cost.	*Market Val.*
5 shares First National Bank in Danvers	$375 00	$500 00
18 shares First National Bank in Salem	1,914 66	2,160 00
8 shares National Exchange Bank, of Salem	800 00	920 00
5 shares National Revere Bank, of Boston	585 87	560 00
16 shares Warren National Bank, of Peabody	1,595 40	2,200 00
12 shares Mercantile National Bank, of Salem	1,226 50	1,350 00
23 shares Merchants National Bank, of Salem	1,189 50	1,550 00
15 shares South Danvers National Bank, of Peabody,	1,471 25	2,250 00
42 shares Asiatic National Bank, of Salem	1,281 25	1,700 00
18 shares Salem National Bank	2,000 00	2,124 00
6 shares Salem Gas Company	687 75	600 00
3 bonds Essex Railroad	700 00	700 00
Cash on hand less $70 unexpended appropriation	53 15	53 15
	$13,880 33	$16,667 15
Funds on hand in 1875,	$14,426 20	
Loss in 1875	$545 87	

The subscribers have examined the within accounts, of the Receipts and Disbursements of the Treasurer; also his statement of the Funds belonging to the Society, (showing a balance of cash in his hands, of $123 15) and find the same well vouched and correct.

CHARLES KIMBALL,
WILLIAM D. NORTHEND, } Auditors.

SALEM, Nov. 25, 1876.

Digitized by Google

OFFICERS OF THE SOCIETY.

FOR 1876-77.

PRESIDENT.

BENJAMIN P. WARE, of Marblehead.

VICE PRESIDENTS.

GEORGE B. LORING, of Salem.
PAUL T. WINKLEY, of Newburyport.
WARREN ORDWAY, of Bradford.
JAS. J. H. GREGORY, of Marblehead.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

TREASURER.

EDWARD H. PAYSON, of Salem.

HONORARY TRUSTEES.

JOSEPH HOW, of Methuen.
ALLEN W. DODGE, of Hamilton.
WILLIAM SUTTON, of Ipswich.

Digitized by Google

TRUSTEES.

Jos. Akerman, Newburyport; Milon S. Jenkins, N. Andover;
Charles C. Blunt, Andover; James P. King, Peabody;
Jas. H. Cheever, Manchester; Joshua N. Kent, Newbury;
George Cogswell, Bradford; Oliver P. Killam, Boxford;
Caleb Childs, Marblehead; Aaron Low, Essex;
Thomas J. Clark, Salisbury; Nath'l E. Ladd, Groveland;
George A. Dodge, Wenham; Jarvis Lamson, Hamilton;
John Danforth, Lynnfield; James R. Nichols, Haverhill;
Henry W. Foster, Beverly; Sherman Nelson, Georgetown;
Alonzo B. Fellows, Ipswich; C. K. Ordway, W. Newbury;
James Flint, Middleton; Francis P. Putnam, Danvers;
Ariel H. Gould, Topsfield; Wm. H. Patch, Rockport;
Bennett Griffin, Gloucester; Moses P. Payson, Rowley;
A. E. Goodwin, Merrimack; Geo. W. Russell, Lawrence;
Joseph S. Howe, Methuen; John L. Shorey, Lynn;
Samuel Hawkes, Saugus; Geo. W. Simmons, Nahant;
B. F. Huntington, Amesbury; Horace C. Ware, Salem.

NEW MEMBERS—1875-'76.

Aug. T. Billings, Topsfield; James Lawrie, Danvers;
Walter F. Blake, Peabody; Mrs. Lefavor, Danvers;
W. H. Brown, Peabody; Gyles Merrill, Haverhill;
Ira F. Burnham, Essex; Ansel W. Putnam, Danvers;
O. B. Burnham, Beverly; H. H. Pillsbury, Danvers;
Joshua H. Chandler, Andover; J. F. Pendergast, Salisbury;
Wm. F. Dole, Peabody; E. P. Richardson, Lawrence;
John Grout, Danvers; Jacob E. Spring, Danvers;
B. C. Hathaway, Danvers; H. P. Whipple, Danvers;
C. F. Johnson, N. Andover; F. A. Wilkins, Danvers.
Patrick Kirby, Danvers;

Digitized by Google

☞ Any citizen in the County may become a member by paying the sum of three dollars to increase the permanent funds of the Society, and he will receive a certificate of his membership from the Secretary. No fines or assessments are ever imposed. Members are entitled to the free use of the Library, and a copy of the Transactions each year. All ordained Ministers of the Gospel residing in the County, and editors of newspapers, published therein, are entitled to the privileges of the Library.

Digitized by Google

LIST OF PREMIUMS, &c.

FAT CATTLE.

Henry Gardner, Salem, first premium, $12 00

BULLS.

J. Longfellow, Newbury, Bull with five calves, first premium, $30 00
A. T. Newhall, Newburyport, Ayrshire, two years old and upwards, first premium, 12 00
George W. Russell, North Andover, Jerseys, two years old and upwards, first premium, 12 00
F. R. Appleton, Ipswich, Jerseys, under two years old, first premium, 6 00
W. A. Russell, Lawrence, Holstein, two years old and upwards, first premium, 12 00
W. A. Russell, Lawrence, Holstein, under two years old, second premium, 4 00

MILCH COWS.

Wm. A. Russell, Lawrence, *special premium*, for best milch cows of any age or breed, $25 00
George W. Russell, Lawrence, for best milch cow, first prem., 12 00
Wm. A. Russell, Lawrence, for best milch cow, second prem., 9 00
Francis R. Appleton, Ipswich, Jersey, first premium, 12 00
Charles J. Peabody, Topsfield, best butter cow, first premium, 12 00

HERD OF COWS.

George W. Russell, Lawrence, for herd, gratuity, $12 00
Charles J. Peabody, Topsfield, for herd, gratuity, 12 00

HEIFERS.

Francis R. Appleton, Ipswich, thoroughbred Jersey, under four years, milch, first premium, $12 00
Francis R. Appleton, Ipswich, thoroughbred Jersey, under four years, milch, second premium, 6 00

Digitized by Google

Wm. A. Russell, Lawrence, thoroughbred Dutch, first prem., 12 00
F. R. Appleton, Ipswich, thoroughbred Jersey, one year old and upward, never calved, first premium, 6 00
Frank W. Bly, Danvers, thoroughbred Jersey, one year old and upwards, never calved, second premium, 4 00
Wm. A. Russell, Lawrence, thoroughbred Dutch, first prem,, 6 00
Wm. A. Russell, Lawrence, thoroughbred Dutch, second prem., 4 00
J. S. Ives, Salem, thoroughbred Ayrshire Calves, first prem., 5 00
G. W. Russell, Lawrence, " Jersey Calves, first prem., 5 00
Francis R. Appleton, Ipswich, thoroughbred Jersey Calves, second premium, 3 00
Wm. A. Russell, Lawrence, thoroughbred Dutch Calves, first premium, 5 00
Mrs. T. P. Pingree, Salem, thoroughbred Dutch Calves, second premium, 3 00
C. Gaffney, Danvers, grade under four years, (milch,) first premium, 12 00
S. F. Crossman, Swampscott, grade under four years, (milch,) second premium, 6 00
Martin Root, Newbury, grade heifers, never calved, one year old and upwards, first premium, 6 00
Charles Ham, Danvers, grade heifers, never calved, one year old and upwards, second premium, 4 00
J. Longfellow, Newbury, calves under one year old, first prem., 5 00
S. F. Crossman, Swampscott, calves under one year old, second premium, 3 00

WORKING OXEN.

J. J. H. Gregory, Marblehead, first premium, $15 00
Charles P. Preston, Danvers, second premium, 12 00
R. S. Bray, Newbury, third premium, 10 00

WORKING STEERS.

D. C. Hathaway, Danvers, first premium, $10 00

TOWN TEAM.

Danvers Horse Team, first premium, $30 00

STEERS.

George F. Mason, Andover, first premium, $8 00

Digitized by Google

STALLIONS.

H. E. Holt, Bradford, four years old, first premium,	$18 00
C. F. Pendergast, Salisbury, second premium,	12 00
William A. Keleher, Lawrence, third premium	10 00
John Hathaway, Salem, three years old, first premium,	10 00
J. P. L. Westcott, Newburyport, second premium,	6 00

BREEDING MARES.

Franklin Alley, Marblehead, first premium,	18 00
William S. Messervy, Salem, second premium,	12 00
A. Knowlton, Essex, third premium,	10 00

FAMILY HORSES.

Charles H. Gould, Danvers, first premium,	$18 00
E. W. Jacobs, Peabody, second premium,	12 00
John Hathaway, Salem, third premium,	10 00
John Swinerton, Danvers, gratuity,	5 00

FARM AND DRAFT HORSES.

Joshua Roberts, Gloucester, first premium,	$15 00
A. T. Newhall, Newburyport, second premium,	12 00
P. T. Winkley, Newburyport, third premium,	10 00
David Knowlton, Essex, fourth premium,	6 00

PAIRS OF DRAFT HORSES.

Perry Knowlton, Essex, first premium,	$15 00
Burnham Brothers, Beverly, second premium,	10 00

COLTS—FIRST CLASS.

J. Grout, Danvers, four year old colt, first premium,	$12 00
A. Knowlton, Essex, second premium,	8 00
J. H. Fitz, Topsfield, third premium,	5 00
J. F. Dane, Hamilton, three year old, first premium,	10 00
A. T. Newhall, Newburyport, second premium,	5 00

COLTS—SECOND CLASS.

George Gibney, Salem, two year old colt, first premium,	$8 00
Wm. Groves, two year old colt, second premium,	3 00
Hugh McGlue, Newbury, yearling first premium,	8 00
George B. Martin, Danvers, yearling, second premium,	3 00

Digitized by Google

SWINE.

R. G. Buxton, Peabody, large bone Yorkshire Boar, 1st prem.,	$10 00
A. T. Billings, Topsfield, " Chester " 2d prem.,	6 00
A. T. Billings, Topsfield, small bone Essex Boar, first prem.,	10 00
F. A. Wilkins, Danvers, large bone Sow, first premium,	10 00
C. F. Goodrich, Peabody, " " " second premium,	6 00
Patrick Kirby, Danvers, small bone Sow, first premium,	10 00
Mrs. Elizabeth Saunders, Peabody, small bone Sow, 2d prem.,	6 00
P. L. Day, Bradford, Weaned Pigs, first premium,	6 00
Daniel Carlton, North Andover, Weaned Pigs, second prem.,	4 00

SHEEP.

Francis R. Appleton, Ipswich, flock, first premium,	$10 00
E. W. Jacobs, Peabody, flock, second premium,	6 00
Francis R. Appleton, Ipswich, buck, first premium,	8 00
Francis R. Appleton, Ipswich, lambs, first premium,	4 00

PLOUGHING—DOUBLE TEAMS.

R. S. Jaques and R. S. Bray, Newbury, first premium,	$12 00
D. C. Hathaway, Danvers, second premium,	10 00

PLOUGHING—SINGLE TEAMS.

Charles P. Preston, Danvers, first premium,	$10 00
Asa T. Newhall, Newburyport, second premium,	7 00
J. J. H. Gregory, Marblehead, third premium,	5 00

PLOUGHING—WITH HORSES.

Edward P. Perley, Danvers, first premium,	$12 00
Asa T. Newhall, Newburyport, second premium,	10 00
J. Kavanagh, Wenham, third premium,	8 00
G. N. Ordway and M. H. Poore, West Newbury, 4th prem.,	6 00
R. S. Bray, Newbury, fifth premium,	5 00

PLOUGHING—SWIVEL PLOUGH.

Silvester Dane, Hamilton, first premium,	$12 00
D. C. Hathaway, Danvers, second premium,	10 00

BOYS' PLOUGHING—SUTTON PREMIUMS.

Aaron Winslow, Swampscott, first premium,	$25 00
Charles S. Smith, Hamilton, second premium,	15 00
Daniel Young, Newbury, third premium,	10 00

Digitized by Google

AGRICULTURAL IMPLEMENTS.

Whittemore Bros., Boston, best collection, prem. and diploma,		$15 00
S. F. Ayers, Boxford, Ox Yoke,	"	3 00
Whittemore Bros., Boston, Hay and Straw Cutter, premium,		3 00
E. E. Lummus & Co., Boston, Randall Harrow,	"	3 00
Whittemore Bros., Boston, Smith's Churn, gratuity,		3 00
Parker & Gannett, Boston, Hay Cutter,	"	1 00
Whittemore Bros., Boston, Cucumber Pump,	"	3 00
Parker & Gannett, Boston, collection,	"	2 00

CARRIAGES.

Dole & Osgood, Peabody, Buggy and Wagon, premium,	$15 00
H. P. Whipple, Beverly, Express Wagon, gratuity,	8 00
H. H. Dempsey, Wenham,	5 00
W. B. Peart, Danvers,	5 00
H. H. Pillsbury, Danvers, display of Carriages,	5 00
C. W. Brine, Peabody, Express Wagon,	2 00

BUTTER.

W. H. Allen, Manchester, first premium,	$10 00
Mrs. L. Lefavour, Danvers, second premium,	8 00
Mrs. Farnham Stiles, Middleton, third premium,	6 00
G. W. Russell, No. Andover, fourth premium,	4 00

FARMS.

Rufus Gordon, Haverhill, second premium,	$20 00

RECLAIMED MEADOW.

J. J. H. Gregory, Marblehead, first premium,	$15 00

IMPROVED PASTURE LAND.

Joseph Horton, Ipswich, first premium,	$15 00

ROOT CROPS.

Hiram A. Stiles, Middleton, Summer Turnips, first premium,			$10 00
Daniel Carlton, No. Andover, Onions,	"	"	10 00
Hayden A. Merrill, Beverly, Squashes,	"	"	10 00
" " " Fottler's Cabbage,	"	"	10 00
Francis R. Appleton, Ipswich, Ruta Bagas,	"	"	10 00
" " " Mangolds,	"	"	10 00

Digitized by Google

SMALL FRUITS.

Benj. F. Huntington, Amesbury, Strawberry crop, first prem., $10 00

ESSAYS.

Ansel W. Putnam, Danvers, Essay on "Comparative Value of Crops as Food for Cattle," first premium, $15 00

J. J. H. Gregory, Marblehead, Essay on Potatoes, second premium, $10 00

REPORTS OF COMMITTEES.

Aaron Low, Essex, Root Crops, first premium, $10 00

David W. Low, Gloucester, Apples, second premium, 8 00

Francis H. Appleton, Peabody, Vegetables, third premium, 6 00

Awarded by Committee on		Poultry,	$71 00
"	"	Vegetables and Seeds,	145 00
"	"	Fruits,	348 00
"	"	Flowers,	62 00
"	"	Counterpanes, Rugs, &c.,	37 00
"	"	General Merchandise,	11 00
"	"	Bread and Honey,	20 00
"	"	Articles Manufac'd from Leather,	18 00
"	"	Fancy Work, &c.,	39 50
"	"	Children's Work,	14 25
			$1,925 75

RECAPITULATION.

FARMS.

Amount awarded to		Ploughing,	$149 00
"	"	Farms,	20 00
"	"	Reclaimed Meadow,	15 00
"	"	Reclaimed Pasture,	15 00—$199 00

FARM STOCK.

Amount awarded to		Fat Cattle,	$12 00	
"	"	Bulls,	76 00	
"	"	Milch Cows,	70 00	
"	"	Herd of Milch Cows,	24 00	
		Amounts carrried forward,	$182 00	$199 00

Digitized by Google

Amounts brought forward,	$182 00	$199 00	
Amount awarded to Heifers,	107 00		
" " Working Oxen,	47 00		
" " Town Team,	30 00		
" " Steers,	8 00		
" " Stallions,	56 00		
" " Breeding Mares,	40 00		
" " Family Horses,	45 00		
" " Farm and Draft Horses,	43 00		
" " Pairs of Draft Horses,	25 00		
" " Colts,	62 00		
" " Swine,	68 00		
" " Sheep,	28 00		
" " Poultry,	71 00	$812 00	

FARM PRODUCTS, &C.

Amount awarded to Dairy,	$28 00		
" " Fruits,	348 00		
" " Flowers,	62 00		
" " Vegetables, &c.,	145 00		
" " Root Crops,	60 00		
" " Bread and Honey,	20 00		
" " All other Objects,	251 75	$914 75	
		$1,925 75	

Digitized by Google

CONSTITUTION

OF THE

ESSEX AGRICULTURAL SOCIETY.

ARTICLE 1. There shall be a President, four Vice Presidents, a Secretary and a Treasurer, who shall be Trustees, *ex officio*; in addition to these, thirty (originally twelve) other Trustees shall be chosen from the members at large, all of whom shall continue in office until others are elected in their stead.

ARTICLE 2. There shall be an Annual Meeting of the Society, at such time as the Trustees shall determine; at which all officers shall be elected. Twenty members at least shall be necessary to constitute a quorum for the transaction of business.

ARTICLE 3. If at any meeting of the Society, or the Trustees, the President and Vice Presidents shall be absent, the members present may appoint one from among them to preside at such meeting.

ARTICLE 4. The President, or, in case of his absence, either of the Vice Presidents, with the advice of the Trustees, may call a special meeting of the Society: or whenever a written application, with the reasons assigned therefor, shall be made by any twelve members of the Society, to the President and Trustees, they shall call such meeting.

Digitized by Google

ARTICLE 5. The meetings of the Trustees shall be held at such time and place as they shall from time to time agree upon; seven of whom with the presiding officer shall make a quorum.

ARTICLE 6. The Trustees shall regulate all the concerns of the Society, during the intervals of its meetings; propose such objects of improvement to the attention of the public, publish such communications, and offer premiums in such form and value as they think proper, (provided the premiums offered do not exceed the funds of the Society); and shall lay before the Society, at each of its meetings, a statement of their proceedings and of the communications made to them.

ARTICLE 7. The Secretary shall take minutes of all the votes and proceedings of the Society and of the Trustees, and enter them in separate books; and shall record all such communications as the Trustees shall direct. He shall write and answer all letters relating to the business of the Society.

ARTICLE 8. The Treasurer shall receive all moneys due or payable to the Society, and all donations that may be made to it; for which he shall give duplicate receipts, one of which shall be lodged with the Secretary, who shall make a fair record thereof. The Treasurer shall from time to time pay out such moneys as he shall have orders for from the Trustees; and shall annually, and whenever thereto required, render a fair account of all his receipts and payments to the Society or a committee thereof. He shall give bonds for the faithful discharge of his duty, in such sum as the Trustees shall direct, and with such sureties.

ARTICLE 9. A committee shall be appointed annually by the Trustees, to audit the Treasurer's accounts, who shall report to the Society; and the same being accepted shall be entered by the Secretary in his books.

Digitized by Google

ARTICLE 10. In case of the death, resignation, incapacity, or removal out of the County, of the Secretary or of the Treasurer, the Trustees shall take charge of the official books, papers, and other effects, belonging to the office that may be vacated, and give receipts for the same; which books, papers, etc., they may deliver to some person whom they may appoint to fill the office until the next meeting of the Society, at which time there shall be a new choice.

ARTICLE 11. Any citizen of the County may become a member of the Society, by paying the sum of THREE DOLLARS to increase the permanent fund of the institution.

ARTICLE 12. A committee shall be raised, from time to time, to solicit and receive subscriptions for raising a fund for encouraging the noblest of pursuits, the Agriculture of our country; the same to be sacredly appropriated to that purpose.

ARTICLE 13. All ordained ministers of the Gospel who reside within the County, shall be admitted honorary members of the Society.

ARTICLE 14. In addition to the usual number of Trustees annually elected, the past Presidents of the Society shall be honorary members of the Board of Trustees.

AMENDMENTS TO THE CONSTITUTION.

ADOPTED SEPT. 29TH, 1863.

ARTICLE 1. The officers of the Society shall consist of a President, four Vice Presidents, a Treasurer, Secretary, and thirty Trustees.

ARTICLE 2. A Committee of one from each city and town in the County, represented in the Society, shall be appointed

Digitized by Google

at each annual meeting, by nomination from the floor, to report a list of officers, (with the exception of Treasurer,) at the next succeeding annual meeting, which report shall be acted on, and the officers elected at said meeting by the ballots of the members present.

ARTICLE 3. The Treasurer shall be elected annually by the Trustees, at their meeting in November.

ARTICLE 4. The Committee on Nomination shall hold its meeting prior to the first day of July each year; and its report shall be immediately placed in the hands of the Secretary, for the examination of any member of the Society; and the Secretary shall cause ballots to be prepared in conformity with said report, for the use of the members, and presented at the annual meeting.

ARTICLE 5. The first election under these amendments to be had at the annual meeting in 1864, and they shall only apply to the Trustees so fast as they go out of office under the present tenure of election.

AMENDMENT ADOPTED SEPT. 24, 1867.

Trustees of the Society shall not be eligible to act upon the nominating committee; and members of the nominating committee shall not be eligible as candidates for Trustees.

AMENDMENT ADOPTED SEPT. 29, 1868.

Each member of the Committee for the nomination of officers shall be empowered to appoint a substitute in case he declines serving.

AMENDMENT ADOPTED SEPT. 23, 1873.

Article 1st, amended so as to provide that one Trustee from each town in the County, in which there are members of the Society, shall be chosen from the members at large.

Digitized by Google

LIBRARY.

The LIBRARY is established at the Plummer Hall, Essex Street, Salem, where members can obtain books under the following

REGULATIONS.

1. Each member shall be entitled to take from the Library TWO VOLUMES, on signing a receipt for the same, and agreeing to be accountable therefor.

2. No member shall keep any book more than two weeks, after being notified (by the Librarian) that the same is wanted by another member.

3. All books belonging to the Library shall be returned on or before the 15th of November in each year; that the same may be examined and the condition of the Library reported to the Trustees.

4. Any member who shall neglect or refuse to conform to these Regulations, shall thereby forfeit the privilege of taking books from the Library.

Digitized by Google

CONTENTS.

	PAGE.
Address of Cyrus M. Tracy,	3
The Exhibition,	21
Report on Fat Cattle,	23
" Bulls,	23
" Milch Cows,	24
" Herd of Milch Cows,	26
" Heifers,	31
" Working Oxen,	32
" Working Steers,	32
" Steers,	32, 38
" Stallions,	32
" Brood Mares,	33
" Family Horses,	34
" Farm and Draft Horses,	34
" Pairs of Draft Horses,	34
" Colts,	34
" Swine,	35
" Sheep,	36
" Poultry,	37
" Ploughing,	39
" Agricultural Implements,	41
" Carriages,	41
" Dairy,	42
" Butter,	42
" Bread and Honey,	42
" Pears,	43
" Apples, (including Statements,)	44–73
" Peaches, Grapes and Assorted Fruits,	73
" Flowers,	75
" Vegetables,	79
" Counterpanes, Carpetings and Rugs,	84

Digitized by Google

Report on Leather, ... 85
" Manufactures and General Merchandise, . . 86
" Fancy Work and Works of Art, . . . 86
" Children's Work, ... 87
" Farms, ... 88
" Improved Meadow Land, ... 90
" Improving Pasture and Waste Land, . . 95
" Manures, ... 102
" Root Crops, ... 104
" Strawberry Crops, ... 117
" Treadwell Farm, ... 119
Essay by Ansel W. Putnam, on "Comparative Value of Crops as Food for Cattle," 121
Essay by J. J. H. Gregory, on Originating New Potatoes, . 130
Report of Committee on Essays, ... 136
Treasurer's Report, ... 138
Officers and New Members, ... 140
List of Premiums, ... 143
Constitution of the Essex Agricultural Society, . . 150
Library, ... 154

Digitized by Google

Digitized by Google

Digitized by Google

cd. 45½.94
Box 5

TRANSACTIONS

OF THE

ESSEX AGRICULTURAL SOCIETY

IN MASSACHUSETTS,

FOR THE YEAR 1877,

WITH THE

FIFTY-FIFTH

ANNUAL ADDRESS

BY OLIVER S. BUTLER.

Published by Order of the Society.

SALEM, MASS.:
PRESS OF THE ESSEX COUNTY MERCURY.
1877.

Digitized by Google

Digitized by Google

TRANSACTIONS

OF THE

ESSEX AGRICULTURAL SOCIETY

IN MASSACHUSETTS,

FOR THE YEAR 1877,

WITH THE

FIFTY-FIFTH

ANNUAL ADDRESS

BY OLIVER S. BUTLER.

Published by Order of the Society.

SALEM, MASS.:
PRESS OF THE ESSEX COUNTY MERCURY.
1877.

Digitized by Google

Digitized by Google

ADDRESS.

Mr. President, and Members of the Essex Agricultural Society, Ladies and Gentlemen:

It is a matter of the most interesting nature, calculated to call forth our most sincere congratulations, that we come up to our annual festival covered and crowned with so many blessings, which the good and gracious God of the seasons has been pleased to vouchsafe unto us.

We have come, in most instances, from homes of *peace*, and *plenty*, from fruitful fields and meadows, rich with corn and crops of various kinds in great abundance. We have come from our *flocks* and *herds*, bearing it may be upon our persons the invigorating breath of our healthful companions, mingled with the aroma of new mown hay and the fragrance of the wild flowers upon which our careless feet have trodden. We have come from the scenes of our *toil* and our triumphs, where we have learned many a valuable lesson, both in *success* and defeat. From the earth that received the seed into her generous soil and returned it back to us increased a thousand fold, and from our helpers in our work, in the *house*, in the *stalls*, and on the *farm*, lessons of *faith* and *trust*, of *hope* and *courage*, of *patience* and *perseverance*, even from the

Digitized by Google

sturdy ox, that bends his willing neck to take the yoke, as well as from the subtle forces and elements that have arrested our attention and challenged our progress; and there is abundant cause for thankfulness to the bountiful giver of all good, that we can meet together at this beautiful season of the year, under this autumnal sky, and surrounded by such auspicious circumstances, to greet each other with such cordiality and friendship. For more than the display of our flocks and herds, or of our fruits and flowers, and more even, than the display of the products of genius, or the mechanism of man or maiden, more, and better than all of these, is the meeting and the joyous greeting of old friends. It is this that gives to our society more than half of its power. As the old Romans looked forward to the return of their harvest festival with supreme delight, so we of old Essex look forward to our annual feast, through all the swift flying days of the year, not as the old Romans, to offer sacrifices to their idol gods, but to meet together as fellow-workers, in a common calling, to give and to receive the congratulations of our friends, and to examine and admire the works of God and man, to look into the faces that have browned under the summer sun, and brightened under the harvest moon, and if we do not fill our halls with idol gods, we do what is better, for we bring with us our sons and our daughters, our wives and our mothers; and this feature of our feast is all the more enjoyable when we reflect on the fact, that we bring together the best minds and the best hearts, the best men and the best women, of Essex County.

In the midst of our congratulation, with some of us at least, our hearts like muffled drums are beating, as we think of those who have fallen in death the past year; for the fatal

Digitized by Google

reaper has been busy among our chief men, and an unusually large number of our most honored and honorable members have passed away. There was Edward H. Little, of Newbury, George W. Boynton, of Georgetown, Samuel Moody, of West Newbury, Thomas J. Clark, of Salisbury, Moses P. Payson, of Rowley, Thomas E. Payson, formerly of Rowley, Andrew Dodge, of Hamilton, Henry A. King, of Peabody, all of them good men and true. *Peace* to their *ashes*, and all *honor* to their *memory*.

In addressing you to-day, I am somewhat perplexed in making choice of a subject for your consideration. Not that the range of thought is at all limited, but more because it is spacious; and my perplexity is increased as I contemplate the long list of honored personages who have discoursed to you upon almost every subject connected with your high vocation. "Surely what shall the man do that comes after the King's?" As I looked abroad over the varied list of subjects, several of them have invited my attention. The soil we till has not been exhausted yet! The crops we cultivate are so numerous and varied in their nature and their adaptation to soil and climate, as well as the means of transporting them to market, that we might spend an hour profitably in their consideration. The cattle that graze in our pastures, or stand in our stalls, present a most interesting subject, and as I was thinking of these, my old familiar friend, the family Horse, called my attention to his condition and wants, and asked me to speak in his behalf, or at least to ask this venerable Society why it is that the ungainly Ox is allowed to pull and back the heaviest load possible, to the great admiration of his owner, and the winning of the first premiums? And why the draft Horse is allowed and encouraged to lift at the cart or the

Digitized by Google

Plough until the stars fly from his eyes and the splints and spavins from his limbs? Why this favoritism for these, while the family roadster must be kept circumscribed as to speed, so that if he desires to go faster than five miles an hour, he must go to the great New England Fair? And he wishes to know how it is, that the wise men who control and applaud the great Moral Show, come here and boast of the fact that this Essex Fair has not been ruined by Horse Racing? But I told my old friend that I could not ask such practical questions in such an august presence, and of course I shall not, but there is one character that rises up before me as I contemplate the scene of our labor, that exceeds all others in importance. It is the man, it is the farmer himself. The man who selects the land and the seed, the stock that he improves, and so plans and works as to win success out of apparent defeat. And as the man is more than lands, however rich, or seed however prolific, or stock however improved; you will permit me to call your attention for a few moments, to the successful farmer, and in calling your attention to some of the characteristics of a successful farmer, you will allow me to qualify my remarks by saying, that I do not mean, by the term successful farmer, the man who enters this pursuit with a fortune in his hand that has been obtained in other callings, and is now rated as a fancy farmer; nor do I refer to the man who may take to the farm as a means of restoring enfeebled health; neither do I refer to the man, who, after failing in every other pursuit, falls back upon the exhausted acres of his ancestors as a last resort to maintain a cheap aristocracy, or to find a decent burial; but I do refer to the man who obtains his first acre by his own efforts, and then adds to them as he has need, and improves them too.

Digitized by Google

The man that makes farming his business; his first and last business!

This character becomes of some importance when we remember that the question of success in farming, as to whether farming is profitable or unprofitable, depends entirely upon the man and not upon the business or its accidents, for it is true of agricultural pursuits, as it is of all others, that the right man in the right place is a success always and ever, for in God's great plan of this our universe and all that pertains to it, there is a place for everything, and a thing for every place. Every drop of water that trembles in the sunlight, every grain of sand on the seashore, every atom in the universe, has its place or sphere in which to move, and the success or failure of any agent or thing, depends upon its being and moving in its proper orbit or place. Most of the failures that occur in this our world, are the result of the violation of this law of creation, either from ignorance of their true position in society, or an unwillingness to take the place where God intended they should move. This is pre-eminently true of the professions so called, and, sometimes, painfully true.

Take the Medical Fraternity, and how apparent is this fact. Not one in a thousand of them has any real genuine skill in detecting or describing the ailments of our bodies, or in curing them, either. Not one in a thousand of them that has any natural fitness or adaptation for their difficult and responsible work, or any real love for the beautiful science they attempt to practise. Hence quacks increase and diseases multiply in an exact ratio to the increase of these second rate practitioners.

Digitized by Google

The same is true of the Legal profession. At the present time the rapid increase in the number of law students and law practitioners, is truly alarming. But we are somewhat relieved of the fear of any serious consequences when we reflect that not one in a thousand will ever make a decision that will go down to posterity as the basis of law. The trouble is found in the fact that there are too many limbs of the law for the parent stock.

The Sacred calling or profession furnishes no exception to this rule. We have started out from the wrong premise when we have acted as though we thought the morals or the salvation of our communities depended more upon the number of our religious societies and teachers, than upon their character or quality. Consequently we have built more churches than we can pay for, and crowded dwarfs into their pulpits who do well enough in reading their little essays and in taking up the usual collections, but have no conception of the nature of their calling, or adaptation to the work of visiting the sick, of comforting the mourner, or of instructing the people in the awful science of life and death, and fail entirely in lifting the soul-life Godward from the low plane of worldly thought and feeling, up into the purer and holier atmosphere of the Heavenly. The remark holds good, that there are many men in the pulpit that ought to be in the pews, and so *vice versa*.

Now it does not follow of necessity, that either of these characters are intentionally out of their place, or wickedly pursuing a calling for which they have no fitness; but still the fact remains, that they fail of success because they have failed to find the proper orbit in which God intended they should move, and on this pivot turns the failure or the success in farming. The principal factor in this difficult problem is the

Digitized by Google

man. We remark, the successful farmer is one who chooses his vocation for love of it, and comes to it with just and proper conceptions of its nature and duties, and in pursuing it is not disappointed.

If a man really hates or detests his business, and pursues it from necessity, he ought not to expect to succeed; and his failure ought not to be attributed to the nature of his business, but to the nature of the *man*. Of course this rule enforced would exclude all that horde of adventurers, now denominated farmers, including the men of whom I have spoken. He must not only come to his calling with a love for the same, but with just and proper conceptions of its nature and duties. If a man enters upon any business with wrong conceptions, or improper notions in regard to its nature, or the duties required, he will be sure to fail of success. First they will be disappointed, and then comes discontent, and then defeat and failure; and many a farmer has failed of success in his chosen calling, from this very cause. I have known many a young man, who, having read our agricultural literature, or perhaps listened to our after-dinner speeches at our fairs, have come to entertain a sort of rose-colored view of agriculture, and having chosen farming for their business, have been undeceived, when it was too late to retrieve their steps. Perhaps they did not really think that the corn would grow without planting; or that the cows would come up into the parlor and ask to be milked; or that the hens would lay three eggs a day in the dairy-maid's lap. But then they had no adequate conceptions of the skill required, and the labor to be performed, in order to force from the reluctant soil the richest treasures, and to wring from apparent defeat the assured success for which they have toiled. The

Digitized by Google

successful farmer, then, is one that brings to his calling an ardent love for the same, and the most just conception of its nature and its duties. And he must also possess a sound, healthy, physical system; we regard this qualification as indispensable. While we freely admit that the *invalid* may regain his health, by gentle, moderate exercise among the healthful scenes of farm life, and that the *imbecile* may not starve on the farm so long as his inherited acres remain to him, and that the *gentleman* farmer may do much to improve his lands, and his stock, as well as for the development of new methods of culture, in which all his brethren may share, without putting his own hands to the plough or the hoe,—and that it shows both goodness of heart, and wisdom of the mind, when the aged and the infirm retire among the scenes and the associations of their youth, to spend the evening of their days in peace, and the happy reflections that come from a well-spent life,—still we must insist that the man who must expose himself to the elements, and brave the storms of winter, and bear the heat of summer; the man who must guide his plough with his own hands, and pitch his new mown hay over the great beams without a patent fork; the man who must build his own walls, and ditch his own meadows,—will need to have a strong, healthy body, *well developed*, *well trained*, and under *perfect control*. He needs, and must have, a physical system that does not need any of your bitter drugs to give a relish for its food, or a cathartic to work it off, or powerful opiates to bring sleep to his eyelids. The successful farmer not only needs a healthy, vigorous body, but a sound, well-balanced mind, with the broadest culture. Away, forever away, with the notion that any ignoramus will do well enough for a farmer, or that farming is to be prosecuted sim-

Digitized by Google

ply by *main strength* and *stupidness*. Oh, no. Such is the nature of your calling, that it requires the broadest culture and the most varied acquirements.

In almost every other vocation, the man of *one idea* may succeed, but not so with farming. Why, think for a moment of the elements, the forces, the properties, the influences, the laws, developed and undeveloped, that he must come in contact with, and understand, if he would succeed. Take the young farmer out on to his broad acres, and let him look beneath his feet, and contemplate the soil out of which he is to draw his treasures, and ask him to make that his study, until he understands its component parts, its marvellous mysteries, its various needs and adaptation to the different crops he may wish to cultivate, and how long would it take him? Then let him attempt to enumerate and analyze, and annihilate, if he can, all the countless horde of insects, and vermin, and reptiles, with their modes of life and propagation, that lie in ambush, waiting to devour the precious seed as soon as it falls from his open hand. Then let him attempt to analyze the influence of light and heat, of wet and dry, upon his varied crops. Then let him look into his barnyard or stalls and watch his growing herds; let him attempt to become familiar with the different breeds of cattle, the best adapted to his *climate* and *business*, with the best methods of treatment, and feeding, that will give him the best results. Then let him look above into the Heavens o'erhead, and what mysteries meet his gaze and invite his investigation! From the shifting clouds, the varying winds, and the mellow sunset tints, to the storms and tornadoes that devastate his fields and blast his hopes. How endless the variety of subjects that meet him on every side and challenge his investigation. The suc-

Digitized by Google

cessful farmer an *ignoramus! Impossible! Impossible!* But in order to the most varied and thorough cultivation of the man, or the successful investigation of these varied subjects, he must become familiar with the agricultural literature of his times; and, if possible, of all times; for a farmer without an agricultural library would be like a hoe without a handle, or a rake without a tooth. But the successful farmer must be more than a reader of books; he must do more than take the products of other minds and experiments, and use them without knowing why! He must be a thoughtful man, a progressive man. Now the difference between the automatic reader of books and the thoughtful man is as wide as from the centre to the poles. The unthinking man is like the bucket that goes to the well to be filled with water, or the sack that goes to the mill to be filled with grain. The water that fills the bucket, or the grain that fills the sack, cannot do either vessel any good, it may do them much harm by over-filling, or filling beyond their capacity. *This filling process is all too common!* There are too many empty buckets and sacks on our farms to-day, and they are found everywhere, even in our churches and lecture rooms. Empty heads waiting to be filled.

The thoughtful man is altogether a different person. He finds a subject for his thoughts, and a lesson for his learning, in everything around him. The thoughtful farmer never takes the tiny seed into his hand without studying the law of germination, of development, and death. He never takes hold of the handles of his plough, without studying the form and structure of the machine, and how it might be improved, so as to leave his furrow straight and smooth, and if he is very thoughtful, he goes down below the furrow of his plough, and

Digitized by Google

studies geology and mechanism at the same time. He not only looks into books and reads them well, but he makes books for others to read. He not only consults authors and compares their different theories, but he becomes an author himself, and constructs theories for others to follow. He not only reads history, but he makes history.. He not only familiarizes himself with the deductions of science, but he *develops*, and *elaborates*, and *utilizes* science, and makes it contribute to his success as a farmer.

Another necessary element of success in the character of the farmer, is a well balanced and well developed moral nature. For no man can be truly honest who has not a well developed moral nature. And honesty or integrity of character is the basis of all greatness or goodness in any individual. But such is the condition of the farmer's life, and such are the natures of the elements and properties with which he constantly comes in contact, that all tricks, all deceptions, all sham and duplicity, should be forever banished from the farm. This is all the more needful for the farmer, in order to strengthen his faith and confidence in the God of the seasons, against the time of trial. There comes to every man, and every family, a time of trial and disappointment, when the mind is bewildered, and the heart grows faint, and hope dies out, and comes not back with the morning light. But there are trials and disappointments that are peculiar to the tiller of the soil; for, after he has selected the seed with the greatest care, and planted it in the most congenial soil, and cultivated the growing crops with the greatest care and persistency, and when every indication would seem to warrant a large, and even bountiful harvest, and he begins to count his gains as sure, then comes the drought of summer, and he

Digitized by Google

waits for the coming rain, but it comes not. The earth is parched and dry beneath his feet. The Heavens above him are red with their brazen heat, and the disheartened farmer must look on his withering and wasting crops, as helpless as the shipwrecked mariner, floating on at the mercy of the great deep sea. For to make an effort of resistance is to cope with the *Infinite* forces of nature. But suppose a remnant of what gave so much promise a short time since, is left him; and he begins to hope that something after all will be left him; then come the swarming insects and the countless hordes of vermin that crawl at his feet, or fly in the air, and after these have taken their share of the precious fruits, there is but little left for the early frost, that leaves our corn fields as black and as barren as the plains of the Nile, when the overflowing tides refuse to come. But suppose this picture to be a little overdrawn. Suppose the harvest redeems the promise of the spring time and the summer, and the root crops groan and grow, and the corn fields laugh in the sunlight, and the trees are loaded with their golden fruit; the granaries are full, the barns can hold no more, the storehouses burst forth with their rich treasures. Then he is told that the markets are full, and that there is no sale for his products, at a remunerative price, and he knows not whether to pray to be delivered from his friends or his enemies. Now the farmer standing in the presence of such defeat, and sometimes disaster, as this, needs a well cultivated moral nature, that will produce in him a faith and confidence in God, the Creator and the Ruler of this universe, to whose infinite mind all these mysteries of nature are as apparent as the daylight, and under whose control all the elements move in their order, and who has sworn by himself that seed-time and harvest,

Digitized by Google

Summer and Winter, shall not fail. With such a sublime faith as this in the God of the universe, the husbandman goes forth to his labor again, in the returning spring-time. He sows in faith, he cultivates in faith, and gathers in the precious fruits of his toil with rejoicing. Then let every man be true.

> "To thine own self be true,
> And it must follow,
> As the night the day,
> Thou canst not then be false to any man."

And now, Mr. President, if the question should be asked you: does farming pay? or is farming as profitable as other business? then give the same answers you would with reference to any other business or profession, (for it is just as pertinent to any other business as to this,) and if the question comes to you, answer it by saying yes, when the right man is found in the right place. Farming is a failure only when the wrong man is in the right man's place; and it is more truly the case with reference to farming than it is to any other branch of business. If the business man, as he is called, fails, from losses by fire or flood, his losses are usually made up by insurance companies; or if his losses come from other causes, then he repudiates his obligations by taking advantage of the bankrupt laws. But the honest soil we till has never yet issued an insurance policy for special cases; and as special legislation is as yet unknown in the legislative halls of the material universe, bankrupt laws are as yet unknown. If the lawyer loses his rich client, by his failure to defeat the ends of justice, and clear his client from the penalties of the law, he need not despair, for the "fools are not all dead," and the very next day he may find a client who is willing to spend a fortune to gain a dollar. But if the harvest time comes and

Digitized by Google

finds you with an empty corn crib, dame Nature sends you no new client to enrich your store, until the frosts and snows of winter have come and gone, when you may again try your hand at the plough and the hoe. If the clergyman seems for a time to fail of success in his chosen calling, he need not despair, (and usually does not,) for back of him is the dignity of his sacred calling. The associations with which he is now or has been connected, the college, the seminary, the conference, (all of them a kind of mutual admiration society,) then there is the religious press, for which he has solicited subscriptions, the missionary society, for whose treasury he has taken the annual collections. Then last, but not least, the ladies' sewing society, which very often is more powerful than all the others combined. With all of these at his back, how can he fail? But the farmer has none of these powerful institutions or agencies to aid him in his work, but, crops or no crops, he must contribute to sustain them all. The physician may sometimes seem to fail of all that success which his qualifications would seem to warrant, because of the healthfulness of his patients. But he has only to wait for the changing of the seasons, when his rejoicing eyes shall see his patients sickening and dying to replenish his depleted treasury. But the old earth needs feeding and feasting, not purging and depleting. In the chemistry of the natural elements there is no partiality shown for allopathy or for homœopathy, they as yet not having made a record of the doings of the Massachusetts Medical Society.

Hence it must be seen that in order to the most successful cultivation of the soil, the breeding and developing of cattle, and bringing them to a profitable market, the right man must be found in the right place.

Digitized by Google

Then we come back to our first statement, that the man is more than his accidents, even in farming; and although

> "It may not be our lot to wield
> The sickle in the ripened field,
> Nor ours to hear on summer eves
> The reaper's song among the sheaves;
> Yet, when our duty's task is wrought
> In unison with God's great thought,
> The past and future blend in one,
> And whatsoe'er is willed is done."

And now, Mr. President and members of the Essex Agricultural Society, thanking you for the courtesy of your invitation to address you at this time, and for the attention you have given to my feeble utterances, you will allow me to express the hope that at some future time we may be permitted to listen to a description, not of the successful farmer, but of the next most important character on the farm, (or in the house,) the successful farmer's wife.

Digitized by Google

Digitized by Google

THE EXHIBITION.

The Cattle Show and Exhibition was held at Lawrence, Sept. 25th and 26th, 1877.

REPORTS OF COMMITTEES, &c.

FAT CATTLE.

The Committee on Fat Cattle have attended to their duty and report that but one pair was entered, and that by Wm. Peters of North Andover, and they award to him the first premium of $12.

The Chairman of the Committee being absent, the duty of making out the report fell on one poorly qualified for that duty; but we would say, that where we see so many oxen around our show, in the town teams, and ploughing teams, worthy of a premium for fat cattle, we regret that the owners of them do not enter them as such.

The export of beef, which will be likely to increase rather than decrease, has raised the price of beef to that point which it will be for the interest of the farmers to look after. When good beef brings from nine to ten dollars per hundred, and corn can be bought for sixty-five cents per bushel, a farmer who keeps a pair of oxen for his own comfort and convenience in doing his work, and does not work them very hard, can well afford to buy meal and give them, and in from six to twelve months have them good beef, and make a good profit on the outlay. We are of the opinion that at present prices of beef and grain, it will pay the farmers to look more to this branch of husbandry.

Committee—John P. Foster, Albert Titcomb, J. Z. Gordon.

Digitized by Google

BULLS.

Ayrshire Bulls, two years old and upwards,—the Committee award to J. D. W. French, of North Andover, for his Bull "Andover," first premium, $12.00.

George B. Bradley, of Methuen, second premium, $6.00.

Ayrshire Bulls, under two years old—Doane Cogswell, of Bradford, first premium, $6.00.

Charles Perley, of Boxford, second premium, $4.00.

For the best Bull of any breed, with five Calves of his stock not less than one year old, the premium of $30.00 is awarded to J. D. W. French, of North Andover, for his Ayrshire Bull "Fitz James."

Jersey Bulls,—Z. C. Wardwell, of Groveland, first premium, $12.00.

F. R. Appleton, of Ipswich, second premium, $6.00.

Holstein Bulls, under two years old,—W. A. Russell, of Lawrence, first premium, $6.00.

W. A. Russell, of Lawrence, second premium, $4.00.

A splendid Jersey Bull, of George W. Russell, of Lawrence, was on exhibition, but as he was awarded the first premium last year, he could not compete for the premium.

William B. Carlton, of Haverhill, offered a Durham Bull, three years old, a very handsome animal, and in the opinion of your Committee worthy of the first premium of $12.00. His pedigree, with the test of the Herd Book, is not perfect. He is a descendant of the stock of Maj. Ben. Perley Poore, of Indian Hill. The father of Major Poore introduced pure Durham cattle on his farm forty years ago; and although he has not kept his cattle registered; the Major has never allowed anything but pure blood to be infused into it. His stock is perfectly acclimated, is hardy, produces fine milkers as to quantity and quality, and in the opinion of your Committee, is quite as likely to improve the stock as a Herd Book animal is. But fearing to establish a precedent, we would not award the premium without the sanction of the Society.

Committee—Joseph Kittredge, S. E. Noyes, Nath'l. Gage.

Digitized by Google

STATEMENT OF J. D. W. FRENCH.

To the Committee on Bulls:

I enter for premium my thoroughbred Ayrshire Bull, "Andover," 1549, recorded in the "Ayrshire Record," published by the Ayrshire Breeders' Association. Calved April 18, 1875; bred by me. Dam, Lillie Douglas, 549, A. R. Sire, Fitz James, 550, A. R.

For the premium of $30, to be awarded for best thoroughbred Bull of any age or breed, with five calves of his stock, not less than one year old, I enter my Ayrshire Bull, "Fitz James," 550, A. R. Calved June 10, 1870. Dam, Jessie, 493. Sire, Tarbolton, 372, imported.

CALVES OF HIS STOCK—HEIFERS.

1. Privet, 3107, A. R. Calved May 11, 1874. Dam Primrose, 711, A. R.

2. Lizzie Burke, 3629, A. R. Calved Dec. 26, 1874. Dam, Betty Burke, 933, A. R.; imported.

3. Roxanna 4th. Calved April 12, 1876. Dam, Roxanna, 1816, A. R.

4. Mary Brand, 3662, A. R. Calved Dec. 12, 1875. Dam, Alice Brand, 833, A. R.; imported.

5. Primula, 3096, A. R. Calved May 18, 1873. Dam, Primrose, 711, A. R.

MILCH COWS.

Report of Committee upon Milch Cows:—

Ayrshires.—The Committee award to J. D. W. French, of North Andover, first premium to his Cow Betty Burke, $12. Second premium to Roxanna, $6.

To this award the Committee annex the very clear and full statement of Mr. French, as follows;—

STATEMENT OF J. D. W. FRENCH.

To the Committee on Milch Cows:

I enter for premium for thoroughbred Ayrshires, four years old and upwards, Betty Burke, 933, A. R., imported, calved

Digitized by Google

1865; and Roxanna, 1816, A. R., calved April 10, 1870, bred by me. Dam, Rose, 743, A. R. Sire, McDonald 3d, 263, A. R.

Both these Cows are recorded in the "Ayrshire Record," published by the Ayrshire Breeders' Association.

Betty Burke dropped her last calf November 12, 1876. Roxanna dropped her last calf May 27, 1877.

The milk account has been made up to Sept. 1st. Betty Burke, 270 days, product in milk, 5610 lbs.; average per day, 20.77 lbs. Roxanna, 95 days, product in milk, 2968 lbs.; average per day, 31.24 lbs.

For account of treatment, food, &c., see statement in regard to Herd of Milch Cows.

In 1875 Betty Burke gave, in 308 days, 8138 lbs. of milk, an average of 26.42 lbs. per day. In 1875 Roxanna gave, in 300 days, 7431 lbs. of milk, an average of 24.77 lbs. per day.

My feed has been very moderate, as the statement will show.

Thoroughbred Holsteins.—To W. A. Russell, of Lawrence, first premium to his Cow Lady Andover, $12. Second premium to Mabit, $6. We give his statement, as follows:—

STATEMENT OF W. A. RUSSELL.

Entered for the best Milch Cow of any age or breed, "Lady Andover," H. H. B., No. 16. She is eight years old, calved Sept. 14, 1876; is due to calve Sept. 28th, 1877. Her milk record from Oct. 1st to July 1st: October, 1562 lbs.; November, 1296 lbs.; December, 1127 lbs.; January, 1288 lbs.; February, 1024 lbs.; March, 1223 lbs.; April, 876 lbs.; May, 885 lbs.; June, 645 lbs. In 273 days she gave 9856 lbs., or 4693 1-2 quarts; average, 17 52-273 per day. Feed in winter, two quarts meal, four quarts shorts, one-third bushel roots, and good hay; has had nothing but what she got in the pasture after May 15th; milked her until Aug. 16th, but no record kept.

"Mabit," H. H. B., No. 178. She is eight years old; dropped her last calf Sept. 12th; for the past eight days she

Digitized by Google

has averaged 50 lbs. milk per day. Feed, pasture and two quarts of grain. Last season she calved in May. For the months of June and July she averaged 56 lbs., or 26 2-3 quarts per day.

J. C. POOE, Foreman for Wm. A. Russell.

Grades.—To Wm. A. Russell, of Lawrence, first premium, $12. Second premium, $6. Statement as follows:—

One Grade Cow entered by Wm. A. Russell. She is seven years old; three-fourths Holstein, one-fourth Ayrshire. Dropped her last calf July 28th. For the last ten days in August she averaged 18 quarts of milk per day. Feed, two quarts of meal and pasture.

One Grade Cow entered by Wm. A. Russell. She is seven years old; one-half Holstein and one-half native. Dropped her last calf March 27th; is due to calve April 14th, 1878. She gave 21 quarts of milk per day for the first ten days in June, and 12 quarts per day for the last ten days in August. Feed, two quarts of meal and pasture.

J. C. POOE, for Wm. A. Russell.

A special premium of $25 for the best Milch Cow of any age or breed, to Charles Perley, of West Boxford, for his Thoroughbred Ayrshire, Madge Day. We give his statement with a record of her milk for the first ten days in June, and the last ten days of August, as follows:

STATEMENT OF CHARLES PERLEY.

I enter my Ayrshire cow, Madge Day, 4038, for premium. She dropped her last calf Dec. 18th, 1876. After turning out to grass in May, she had no feed in addition to the pasture until the last of August, when the pasture became very dry, and a small foddering of corn stalks was given to her each day.

Digitized by Google

RECORD OF MILK.

June 1st,	34½ lbs.	August 21st,	18 lbs.
" 2d,	34 "	" 22d,	19 "
" 3d,	33½ "	" 23d,	18½ "
" 4th,	34 "	" 24th,	18 "
" 5th,	34¼ "	" 25th,	18 "
" 6th,	33¾ "	" 26th,	19 "
" 7th,	34 "	" 27th,	20 "
" 8th,	34½ "	" 28th,	21 "
" 9th,	33¾ "	" 29th,	21 "
" 10th,	34 "	" 30th,	21½ "
		" 31st,	22 "

There were several other entries of very fine cows, which the Committee would have been glad to have considered; but were obliged to pass them, as the owners had omitted to accompany their entries with a written statement, according to the rules of the Society. We give below for future reference the rule referred to:

"A written statement will be required of the age and breed of all Milch Cows entered, and time they dropped their last calf, and when they will next calve; the kind, quantity, and quality of their food during the season; and the weight or measure of their milk during the evening and morning of each of the first ten days of June, and the last ten days of August."

The Committee decided before entering upon their duties, to keep strictly to this rule and take no verbal statements. We need facts taken at the time and recorded, that we can print. Many cows, kept year after year to no profit, would be sent to the shambles if the owner could see an exact record of their milk.

JOHN L. SHOREY, for the Committee.

HERD OF MILCH COWS.

The Committee on Herds of Milch Cows have carefully attended to their duty, and have awarded the premiums as follows, viz.: The first premium of $18 to J. D. W. French,

Digitized by Google

of North Andover, for his herd of Ayrshires; and the second premium of $12 to George W. Russell, of Lawrence, for his herd of Jerseys.

Committee—James P. King, John Danforth, Edward R. Lee, John Swinerton, J. Otis Winkley.

STATEMENT OF J. D. W. FRENCH.

Committee on Herd of Milch Cows:

I enter for premium for best Herd of Milch Cows, my Ayrshires, Lillie Douglas, 549, Lilac Douglas, 2721, Alice Brand, 833, imported, Primula, 3096, and Jenny Burke, 2556. These animals are all recorded in the "Ayrshire Record," published by the Ayrshire Breeders' Association. The last two were bred by the exhibitor. The milk of each cow has been carefully weighed twice a day.

THE RECORD FOR 2 SUCCESSIVE YEARS, EXCEPTING PRIMULA, WHO WAS IN MILK 424 SUCCESSIVE DAYS.

Name, No. and Age.	Years.	No. Days in Milk.	No. Lbs.	Av. pr dy.
Lillie Douglas, No 549.	1875.	305	5657	18.15
Calved May 2d, 1864.	1876-77.	290	5179	17.85
Lilac Douglas, 2721.	1875-76.	330	5301	16.06
Calved April 4, 1873.	1876-77.	283	4966	17.54
Alice Brand, 833.	1876.	271	5688	20.98
Calved Jan. 27, 1870.	1875.	285	6342	22.25
Primula, 3096.	1876-77.	424	6752	15.92
Calved May 18, 1873.				
Jenny Burke, 2556.	1875-76.	258	4745	18.39
Calved Oct. 21, 1873.	1876-77.	288	4889	16.97

You will notice that Lillie Douglas is 13 yrs. old; Alice Brand 7 yrs. old; Lilac Douglas 4 yrs. old; Primula 4 yrs. old; Jenny Burke 4 yrs. old in October, 1877.

Lillie Douglas dropped a b. c. April 1st, 1875, and again a b. c. May 26, 1876-77.

Lilac Douglas dropped a b. c. March 16, 1875; a b. c. April 24, 1876.

Digitized by Google

Alice Brand dropped a c. c. Dec., 1874; a c. c. Dec. 12, 1875.

Primula dropped a b. c. Jan. 29, 1876.

Jenny Burke dropped a c. c. Nov. 7, 1875; a b. c. Sept., 1876.

RECORD SINCE DROPPING LAST CALF, TO SEPT. 1, 1877.

		No. dys. in Milk.	No. Lbs.	Av. pr. dy.
Lillie Douglas	dropped c. c. July 4, 1877.	55	1307	23.76
Lilac Douglas	" " Apr. 17, 1877.	126	3760	29.84
Alice Brand	" " Nov. 22, 1876.	272	6384	23.47
Primula	" " May 25, 1877.	97	2522	26.
Jenny Burke	" " Aug. 24, 1877.	7	214	30.57

STATEMENT OF MANNER OF KEEPING, &C.

Summer Treatment.—From about the middle of May to November 1st, milking begins at a quarter before 5 A. M., and 6.30 P. M. The food during that time, is pasturing with a feed of fodder corn or grass during the months of August, September and October.

Winter Treatment.—From November 1st to about the middle of May, milking begins at 5 A. M. and 5 P. M. After milking in morning, each cow is given one feed of good hay; after that is eaten, 10 quarts of cut mangolds and turnips, or mangolds alone. They are then carded, cleaned and bedded. At 11 o'clock A. M. watering begins. At noon each cow receives a foddering of corn fodder or poor hay; at 4 P. M. a foddering of good hay and 2 quarts of corn meal; (the corn is generally ground with the cob.) After the evening milking, the cows are bedded, and then left for the night. The Committee will observe that my feed is not excessive; but on the other hand very moderate. My cows could be forced into giving much more milk than is shown in the record. The dry cows do not receive any grain. The amount of hay fed per day, is from 25 to 30 lbs.

Digitized by Google

STATEMENT OF GEORGE W. RUSSELL.

I offer for premium, my herd of seven cows, pure bred Jerseys. They were fed in winter with hay, and four quarts of shorts, and one peck of roots, morning and night. In summer they have been kept in a common pasture and had four quarts of shorts per day.

"Nellie Blenn, 2d," dropped bull calf October 13, 1876; due to calve August 3, 1877.

RECORD OF MILK.

October, (15 days,)	405 quarts.		Average per day,	27 qts.
November,	810 "		"	27 "
December,	790 "		"	25.484 "
January, 1877,	775 "		"	25 "
February,	651 "		"	22.45 "
March,	682 "		"	22 "
April,	600 "		"	20 "
May,	558 "		"	18 "
June,	450 "		"	15 "
July, (15 days,)	105 "		"	7 "
	5826 "	in 273 days.	"	21.34 "

"Nellie Blenn," dropped calf December 14, 1876. Due to calve October 27, 1877.

RECORD OF MILK.

December, (10 days,)	205 quarts.		Average per day,	20.5 qts.
January, 1877,	581 "		"	18.74 "
February,	504 "		"	18 "
March,	503 "		"	16.23 "
April,	427½ "		"	14.25 "
May,	403 "		"	13 "
June,	360 "		"	12 "
July,	325½ "		"	10.5 "
August,	186 "		"	6 "
	3495 "	in 253 days.	"	13.82 "

Digitized by Google

"Belle," dropped calf Sept. 6. 1876; due to calve August 2, 1877.

RECORD OF MILK.

October,	555 quarts.	Average per day,	17.9 qts.
November,	488 "	"	16.27 "
December,	434 "	"	14 "
January, 1877	372 "	"	12 "
February,	283 "	"	10.11 "
March,	279 "	"	9 "
April,	270 "	"	9 "
May,	248 "	"	8 "
June,	195 "	"	6.5 "
July,	155 "	"	5 "
	3279 " in 304 days.		10.79

"Sultana," imported, dropped calf May 14, 1877. Due to calve March 25, 1878.

RECORD OF MILK.

May, (15 days)	215 quarts.	Average per day	21 quarts.
June,	600 "	"	20 "
July,	573½ "	"	18.5 "
August,	465 "	"	15 "
	1953½ " in 107 days.	"	18.26 "

"Daphne," dropped calf Feb. 25, 1877. Due to calve March 17, 1877.

RECORD OF MILK.

March,	449½ quarts.	Average per day,	14.48 quarts.
April,	390 "	"	13 "
May,	360 "	"	12 "
June,	315 "	"	10.05 "
July,	248 "	"	8 "
August,	186 "	"	6 "
	1,948½ " in 184 days.	"	10.59 "

Digitized by Google

"Daphne 2d;" dropped calf March 26, 1877; due to calve March 2, 1878.

RECORD OF MILK.

April,	607½ quarts.	Average per day,	20.25 qts.	
May,	589 "	"	19 "	
June,	525½ "	"	17.52 "	
July,	496 "	"	16 "	
August,	372 "	"	12 "	
	2590 " in 153 days.	"	16.93 "	

"Rosa R.," two years old; dropped calf July 19, 1877.

RECORD OF MILK.

July, (10 days,)	92 quarts.	Average per day,	9.2 qts.	
August,	248 "	"	8 "	
	340 " in 41 days.	"	8.29 "	

HEIFERS.

The Committee on Heifers, in submitting their Report, would state that they found much difficulty in deciding in so satisfactory a manner as they could have desired, as to the relative merits of so large a number of entries scattered over the grounds, as they were generally of uniform excellence in quality.

The Committee make the following awards:

Thoroughbred Heifers in Milk—First premium to J. D. W. French, of North Andover, of $12.00, for his Ayrshire Heifer "Privet;" and also the second premium of $6.00 for his Ayrshire Heifer "Lizzie Burke."

Jersey Heifers in Milk—First premium to Levi Emery, of Lawrence, for Jersey Heifer, $12.00.

Second premium to George W. Russell, of Lawrence, $6.

Jersey Heifers not in Milk—First premium to Levi Emery, of Lawrence, $6.00.

Digitized by Google

Second premium to F. R. Appleton, of Ipswich, $4.00.

First premium to J. D. W. French, of North Andover, for his Ayrshire Heifer "Mary Brand," $6.00.

Second premium to Charles Perley, of Boxford, $4.00.

Native or Grade Heifers in Milk—First premium to George B. Bradley, of Methuen, $12.00. Second premium to George B. Bradley, $6.00.

Native or Grade Heifers not in Milk—First premium to Daniel Carlton, of North Andover, $6.00.

Second premium to W. B. Carlton, of Haverhill, $4.00.

Holstein Heifers—First premium to W. A. Russell, of Lawrence, $6.00.

Thoroughbred Heifer Calves—First premium to J. D. W. French, of North Andover, $5.00.

Second premium to Charles Perley, of Boxford, $3.00.

First premium to F. R. Appleton, of Ipswich, $5.00.

Second premium to George W. Russell, of Lawrence, $3.

Native or Grade Calves—First premium to W. B. Carlton, of Haverhill, $5.00.

Holstein Calves—First premium to W. A. Russell, of Lawrence, $5.00.

Committee—Hiram A. Stiles, James Nason, Abel Stickney, Daniel G. Todd, Albert Kimball.

STATEMENT OF J. D. W. FRENCH.

Committee on Heifers:

I enter for premium for thoroughbred Ayrshires, under four years, in milk, my Heifers Privet, 3107, and Lizzie Burke, 3629, both recorded in the "Ayrshire Record," published by the Ayrshire Breeders' Association.

"Privet" calved May 11, 1874. Dam, Primrose, 711; Sire, Fitz James, 550.

"Lizzie Burke" calved Dec. 26, 1874. Dam, Betty Burke, 933, imported; Sire, Fitz James, 550.

Both Heifers were bred by the exhibitor.

Digitized by Google

THE MILK RECORD.

	Year.	No. Days in Milk.	No. Lbs.	Av. pr. Day.
Privet,	1876-77	265	3750	14.15
"	1877	28	688	24.57
Lizzie Burke,	1877	175	3245	18.54

Both Heifers are still in milk.

Privet dropped a b. c. Sept. 28, 1876, and again a b. c. Aug. 3, 1877.

Lizzie Burke dropped a b. c. Feb. 23, 1877.

I enter for premium for one year old and upwards, never calved, Ayrshires, my Heifers Mary Brand and Roxanna 4th. Mary Brand, 3662, calved December 12, 1875. Dam, Alice Brand, 833, imported; Sire, Fitz James, 550.

Roxanna 4th, calved April 12, 1876. Dam, Roxanna, 1816. Sire, Fitz James, 550.

Both Heifers bred by exhibitor.

I enter for premium for Heifer Calves, Ayrshires, four Calves bred by me :—

"Sarah Brand," calved Nov. 22, 1876. Dam, Alice Brand, 833, imported; Sire, Fitz James, 550.

"Sophora Douglas," calved Jan. 5, 1877. Dam, Sophie Douglas, 2d, 3205; Sire, Fitz James, 550.

"Lilac Douglas, 2d," calved April 17, 1877. Dam, Lilac Douglas, 2721; Sire, Fitz James, 550.

"Roxanna 5th," calved May 27, 1877. Dam, Roxanna, 1816; Sire, Fitz James, 550.

WORKING OXEN, BULLS AND STEERS.

The Committee award as follows :—

To George A. Butfers, Methuen, for Working Oxen, first premium, $15.

To B. H. Farnham, North Andover, second premium, $12.

To Moses A. Bailey, Andover, third premium, $10.

Digitized by Google

To George F. Mason, Andover, Working Steers, first premium, $10.

To John P. Foster, North Andover, second premium, $6.

To W. A. Russell, Lawrence, Working Bulls, first premium, $15.

Committee—Jos. Kittredge, J. M. Titcomb, Dudley Bradstreet.

TOWN TEAMS.

The Committee on Town Teams respectfully submit the following report:—

There were three town teams of horses and four of oxen entered for premium, as follows: From Lawrence, four pairs of oxen; North Andover, eight pairs of oxen and eleven pairs of horses; Andover, nineteen pairs of oxen and three pairs of horses; Methuen, twelve pairs of oxen and four pairs of horses. The quality of nearly all the stock was so excellent, that it was not easy to make the award of premiums. Having regard, however, partly to number in the team, and partly to quality of the cattle, the Committee recommend the following awards:—

For Horse Teams—To North Andover, first premium of $30.00. To Methuen, second premium of $15.00.

For Ox Teams—To Andover, first premium of $30.00. To Methuen, second premium of $15.00.

We do not know as there is need of any extended remarks on Town Teams. The cattle thus collected and shown on the day of exhibition, simply contribute to the interest of the show, and also indicate the manner in which the farmers of the exhibiting town carry on their work.

A few suggestions, however, on the kind of stock best to be employed upon the farm, may not be out of place. Within a few years, a great change has taken place in the manner of doing farm work, particularly that requiring animal labor. Horses have to a great extent been substituted for oxen, and

Digitized by Google

we now find few farmers owning working oxen. This has resulted from several causes. The small profit in making beef since the supply has come mainly from the West, the greater quickness with which many kinds of work can be performed by horses, and the high price of fodder in past years, have all contributed to this result. But we have sometimes thought that farmers have gone too far in this direction, and we hold that the comparative value of horses and oxen for ordinary farm labor, is really quite an important question for every farmer.

Undoubtedly the use of horses is most economical for the performance of many kinds of work, such as ploughing "old ground," harrowing, and many kinds of teaming, but yet there are some things which can be done best by oxen. It is seldom that a horse team can turn over grass ground so well as oxen, especially if the ground be rough or stony, and generally for any kind of work requiring especial strength and steadiness, oxen are preferable. Still it is absolutely necessary for every farmer to keep a horse, and of course if he can perform all his work with it, he does not need a pair of cattle. But if his farm is large enough to require more animal labor, then it becomes a question whether he had better employ oxen or horses. There are several points to be considered in deciding this question, which will readily suggest themselves; but we will only refer to one or two. If the farmer has carts and harnesses for horses, and no equipments for oxen, he must consider whether it will pay him to go to the expense of an outfit for an ox team. If his business is such as to require a large amount of teaming on the road, he must consider whether his work cannot be done more economically by horses. But then we suppose it is the experience of almost every farmer, that when he finds it necessary to sell his horse, he cannot get as much as he gave, even if his horse has not depreciated in value. We do not think this applies particularly to farmers, but suppose it to be a general law,—with now and then an exception,—that the man

Digitized by Google

who buys a horse, does not usually get his money back when he sells. If he buys a good sound horse, the animal is subject to the ten thousand ills to which horse flesh is heir, and he is liable any day to find that by some unlucky wrench or strain, or carelessness, fifty per cent. of the value has vanished. If he makes an unlucky trade, and finds that his horse has some quality which he don't like, or is utterly wanting in the traits he most desires, he cannot easily sell, but must wait months for a customer, and then sell at a low figure. It is true it is not much easier to find a customer for a poor, thin pair of oxen, than for a horse; but we don't believe a good farmer will often have that kind of oxen. If oxen are fat enough for beef, they will always sell at the market price; so that if one buys a pair of cattle to work for a short time, he need not lose anything if the price of beef remains the same. The difference in the cost of keeping a pair of horses and a seven-foot pair of cattle for a year, is not very much. The oxen probably cost the most in the winter, and the horses in the summer. We do not advocate the use of oxen for farm work by every farmer, but we think that by proper management they can be used profitably to a greater extent than they are. And the first and principal point is to buy the right kind of cattle. It is a common notion that it is most profitable to buy thin cattle, and by good keeping get them fat, thus making a gain. We believe this is a great mistake. Our own experience is, that the most unfortunate trades we ever made were in buying that kind of stock. There is always some reason why cattle are thin, and unless we know all about them it is impossible to tell whether it is for want of good keeping, or because they are dainty, or by reason of hard work. If it is because of poor keeping, they will thrive and fatten on good living. But nine times in ten cattle are thin and lank, either from daintiness or hard work. There is nothing more provoking than to see cattle poke over their feed, only eating the choicest bits, and it is

Digitized by Google

almost impossible to fatten such stock. And as far as profit is concerned, one might about as well turn his grain into a rat-hole as to feed it to cattle that have been worked down thin on good keeping. If one finds himself possessed of such a pair, he cannot easily sell them for work, and cannot fatten them in any reasonable time, and he concludes that ox labor is very unprofitable.

Instead of buying such stock because it seems cheap, we believe it better economy to purchase young, thrifty, good-shaped stock already in condition to make decent beef. The first cost may be a little greater, but so will be the receipts when they are sold. If they are fat, good provender will keep them so, and the chances are that they will continue to gain. If they do not work well, they can be sold any day to the butcher for the market price. It will also generally be found that good-natured, docile animals, such as take on fat readily, and "keep themselves well," are the best workers. The fractious high-tempered cattle worry more at their work, are more liable to be abused by drivers, and consequently do not thrive as well.

We have found, too, that oxen fat enough for the butcher, if good shaped and thrifty, stand the heat better than thin ones.

Other points, such as the breed of cattle best for farm work, the most economical mode of feeding, and kindred questions, might be discussed, but this paper is of sufficient length. To sum it all up, we believe that every farmer will do well to consider whether or not it is prudent for him to employ oxen instead of horses; and also if he decides to do so, that he should be careful in his purchase, and see whether, in the matter of oxen, it is not cheapest in the long run, to buy the best.

All of which is respectfully submitted.

Jos. S. Howe, *Chairman.*

Digitized by Google

STEERS.

The Committee award to Joseph Kittredge, No. Andover, Yearling Steers, first premium, $5.00.

A pair of Steer Calves were exhibited by J. H. Farnum, which attracted a good deal of attention, as they were perfectly handy, and were teamed by a boy twelve years old. Your Committee award them a gratuity of $3.00.

Committee—Geo. F. Mason, Daniel Carleton.

STALLIONS.

There were fifteen entries for premium.

Dr. William Cogswell, Bradford, was awarded the premium of $30 for Stallions of any age, for his "Prince William," with eight of his colts.

W. A. Keleher, Lawrence, was awarded the first premium for Stallions four years old and upwards, of $18.

Geo. W. Russell, Lawrence, second premium of $12.

M. B. Merrill, West Newbury, for his "Emperor Gold Dust," the third premium of $10.

Geo. W. Rogers, of Salem, was awarded the first premium of $10 for Stallions three years old.

H. E. Holt, of Bradford, the second premium of $6.

WARREN ORDWAY, *Chairman.*

BROOD MARES.

The Committee on Brood Mares respectfully report:

The exhibition of animals in this class was excellent, and many valuable mares were present on the grounds. After careful examination they award the following premiums:

To Justin E. Bradstreet, of Bradford, first premium, $18.

Digitized by Google

To Albert Titcomb, of Rowley, second premium, $12.

To Abiel Wilson, of North Andover, third premium, $10.

The mares of Peter Holt, Jr., of North Andover, E. A. & J. Webster, of Haverhill, and J. G. McAllister, of Lawrence, are worthy of honorable mention.

GEO. B. LORING, *Chairman.*

FAMILY HORSES.

Committee met at 2 o'clock and examined all the horses entered except L. P. Bradley's, of Haverhill, and A. E. Ambrose's, of Newbury, whose horses could not be found.

Awarded first premium to John E. Gale, Haverhill, Mass., $18; second premium to S. K. Johnson, Andover, Mass., $12; third premium to H. E. Holt, Bradford, Mass., $10.

Committee—G. W. Russell, Doane Cogswell, David Stiles, E. F. Little, Ansel W. Putnam.

FARM AND DRAFT HORSES.

The Committee award the first premium to Joshua Roberts, Gloucester, $15; second premium, to S. F. Newman, Newbury, $12; third premium, to J. O. Winkley, Newburyport, $10; fourth premium, to R. Welch, Methuen, $6.

Committee—Thos. K. Leach, Benpett Griffin, M. A. Plummer, David Knowlton, Leverett Bradley.

PAIRS OF DRAFT HORSES.

The Committee on Pairs of Draft Horses have awarded the following premiums, viz.:

First premium to T. O. Wardwell, North Andover, $15; second premium to E. P. Perley, Danvers, $10.

Digitized by Google

Nine entries were made, but only six teams contested for the prizes, and your Committee were unanimous in making the awards.

Whilst finding much to condemn in the general management of the fair, we take great pleasure in commending the efficiency of the Chief Marshal and his aids, who, by their prompt attention to duty, and gentlemanly deportment, contributed largely to the success of the "Old Essex Society." Too much cannot be said in their praise, and we trust that in the future the marshals will take pattern from the example set them in 1877 at Lawrence.

It has of course occurred to the mind of every farmer, how rapidly oxen as beasts of labor are being superseded by horses. But perhaps it is worth recording in the Transactions of our Society, that in the year 1870 the United States had 7,145,370 horses, nearly one-eighth in the whole world. This fact alone demonstrates that to us as a nation the horse is a matter of importance,—of supreme vital importance,—and should be treated accordingly; should be bred according to scientific principles; should be reared, handled and trained with care; and the result will show, as it has already shown in the United States, that what contributes to the welfare of the whole country, also contributes to the individual welfare of all classes; of all citizens; but more particularly to the farmer, with whose interests he is closely identified.

It is our belief, and it seems to be the universal judgment in this section of the country, that kind, tractable horses, weighing from 1000 to 1200 lbs., are best adapted to the present wants of the New England farmer, and we would urge that in the selection of draft horses, especial attention be given to their *fast walking*, as well as to their good working qualities.

Committee—Horace F. Longfellow, Wm. P. Bailey, Jas. H. Cheever, Henry C. Harnden.

Digitized by Google

COLTS—FIRST CLASS.

The Committee award as follows:—

To J. O. Winkley, Newburyport, for four years old Colt, first premium, $12.

E. T. Northend, Newburyport, for three years old Colt, first premium, $10.

Benjamin S. Barnes, Boxford, for three years old Colt, second premium, $5.

Committee—Geo. B. Loring, 2d, S. B. George, John J. Downing, M. C. Andrews.

COLTS—SECOND CLASS.

The Committee award as follows:—

To Daniel Tenney, Newbury, for his two year old Colt "Wheeler," first premium, $8. For his two year old Colt "Hayes," second premium, $3.

To Otis Mann, Newbury, for yearling Colt, first premium, $8.

To J. J. Downing, Andover, for yearling Colt, second premium, $3.

Committee—Otis F. Putnam, Jas. A. Montgomery, O. L. Kent, M. H. Poor, Jas. T. Johnson.

SWINE.

The Committee on Swine report:

FIRST CLASS.

To Virgil Dow, Methuen, for Breeding Sow, first premium, $10; to H. G. Herrick, Lawrence, for Breeding Sow, second premium, $6; M. Birmingham, Salem, for Boar, second premium, $6; Levi Emery, Lawrence, for Pigs, first premium, $6; C. T. Emerton, Peabody, for Pigs, second premium, $4.

Digitized by Google

SECOND CLASS.

To Benj. P. Ware, Marblehead, Essex Boar, first premium, $10; J. D. W. French, No. Andover, Essex Boar, second premium, $6; Daniel Carlton, No. Andover, Breeding Sow, first premium, $10; Jos. Kittredge, No. Andover, Breeding Sow, second premium, $6.

Committee—A. H. Gould, J. F. Burnham, R. Buxton.

SHEEP.

The Committee on Sheep report as follows:

To Joseph Kittredge, No. Andover, for his flock, special premium by D. F. Appleton, with statement, $25; to F. R. Appleton, Ipswich, best flock (Cotswold,) first premium, $10; Henry G. Kimball, Bradford, Buck, first premium, $8; F. R. Appleton, Ipswich, Lambs, first premium, $4.

C. C. BLUNT, *Chairman.*

STATEMENT OF JOS. KITTREDGE, ON EXPERIMENT IN RAISING LAMBS FOR THE MARKET.

Committee on Special Premium of D. F. Appleton:

DEAR SIRS. The flock of ewes for raising lambs kept by me last winter, was twelve in number. Two of them are Cotswolds, purchased at the sale of the late Francis Dane; the others were selected in different places and are of mixed breeds. They were fed through the winter on fair hay, but not the best, and about half a pint each of damaged beans per diem, until their lambs were born. Afterwards they had about a pint each of wheat shorts per diem, and better hay, a part of which was second crop. The oldest lamb was born Jan. 26th, all the rest early in February. A box of meal was kept, to which the lambs had access at all times. Ten of the ewes raised fourteen lambs, four pairs of twins and six single lambs. A part of the lambs were sold, and the

Digitized by Google

rest consumed in the family. Taking the price of those sold, and the market value of those consumed, the lambs of the ten ewes amounted to one hundred and five dollars ($105.00,) making an average of ten and one half dollars (10.50,) for each ewe. The sheep sheared about six pounds each of unwashed wool, which I sold for thirty-seven cents a pound, making the net income from each sheep twelve dollars and seventy-two cents ($12.72.) The sheep were turned to pasture about May 25th, and have had no grain since.

Respectfully submitted.

JOSEPH KITTREDGE,
No. Andover, Mass.

Sept. 25th, 1877.

POULTRY.—FIRST CLASS.

The Committee on First-Class Poultry, respectfully submit the following report:

The number of entries was very small, and with the exception of a few coops, was of a very inferior quality. We find only eleven entries, where a few years ago there were twenty-five or thirty, and these, according to the report of 1875, were of the very best quality.

We are satisfied that the cause of this is the want of paying sufficient premiums to pay for running the risk and expense of exhibiting *first-class Poultry;* and we also think that if the rules in regard to premiums on Poultry are not changed, in a short time you will not have any "Poultry Show" connected with your annual exhibition, except a few "mongrels," as was formerly the case.

You are willing to give two dollars premium on a plate of Grapes, and three dollars on a plate of Apples or Pears, and from ten to twenty-five dollars for a Cow or Bull, and we would ask if good Poultry is not as deserving of high premiums as good fruit or beef.

Digitized by Google

Your Committee would respectfully recommend that the premium on Poultry be as follows: First premium *five* dollars, ($5.00;) second, *three* dollars, ($3.00;) and third premium *one* dollar, ($1.00;) and we would also recommend that the present "American Standard of Excellence" be adopted as a guide for the judges, and that birds scoring less than *eighty* points, shall not be entitled to first premiums.

Of the coops entered this year, Chas. P. Jacobs, of Peabody, had a very fine trio of Light Brahmas, and C. O. Putnam, of Danvers, had some good Black Cochins. The following premiums and gratuities were awarded:

Light Brahmas,—C. W. Mann, Methuen, gratuity, 50 cts.

Light Brahmas, Chicks,—C. P. Jacobs, Peabody, first premium, $2.

Dark Brahmas,—Frank J. Bradley, Methuen, gratuity, $1.

Black Cochins,—C. O. Putnam, Danvers, first premium, $2.

Black Cochins, Chicks,—C. O. Putnam, Danvers, second premium, $1; gratuity, $1.

Pekin Ducks,—C. W. Mann, Methuen, first premium, $2; second premium, $1.

Aylesbury Ducks—M. W. Keyes, Methuen, first premium, $2.00.

Committee—W. M. Ward, Jasper Rea, John Swinerton.

POULTRY—SECOND CLASS.

The Committee award;—

Brown Leghorn Chickens—George J. Johnson, Rowley, first premium, $2; M. C. Andrews, Andover, do., second premium, $1; L. F. Weston, Danvers, gratuity, $1; Frank J. Bradly, Methuen, do., gratuity, 50 cents.

White Leghorn Chicks—Frank J. Bradly, Methuen, first premium, $2.

Plymouth Rock—Frank J. Bradly, Methuen, gratuity, $1.

Digitized by Google

S. S. Poland—L. F. Weston, Danvers, gratuity, 50 cents.
White Bantams—S. M. Davis, Lawrence, gratuity, 50 cts.
Collection of Pigeons—C. O. Putnam, Danvers, gratuity, $1.
Committee—W. H. Allen, C. D. Ordway, Wm. Howe Burnham.

PLOUGHING—DOUBLE TEAMS.

The Committee on Ploughing with Double Teams report:
First premium to Benjamin H. Farnham, of North Andover, $12.00.
Second premium to J. D. W. French, of North Andover, $10.00.
Committee—A. B. Fellows, Anthony Hatch, T. G. Thurlow, G. S. Phippen, J. L. Farnham.

PLOUGHING WITH HORSES.

The Committee on Ploughing with Horses beg leave to offer the following report. The inequality of the land rendered a decision in some cases difficult.
First premium to Joshua N. Kent, of Newbury, $12.00.
Second premium to R. S. Bray, of Newbury, $10.00.
Third premium to M. H. Poor, of West Newbury, $8.00.
Fourth premium to George W. Russell, Lawrence, $6.00.
Fifth premium to Paul T. Winkley, of Newburyport, $4.
Committee—W. J. Dale, Jr., Charles W. Ordway, Wm. Thurlow, Israel Herrick, Thomas H. Balch.

PLOUGHING WITH SWIVEL PLOUGHS.

In addition to the mere announcement of premiums in this department, it seems desirable to say something in regard to the merits of the different ploughs used.

Digitized by Google

We judge from the interest taken in the match that the farmers of the county are generally interested in the Swivel Plough, and note with attention the improvements made from year to year.

The Ploughs used were the "Holbrook,"—an old favorite with many, and as held by Mr. Poor, ploughing for Mr. Russell, doing so well as to claim the first premium for work done with double team.

We noticed that this Plough ran deeper than required by the rule of the Society, averaging nine inches, and turning the sod at that depth as well as is usually done at six or eight inches.

Mr. Foster used the "Lufkin,"—a Plough noticeable for the absence of the usual hasp for holding the mould board in position; a self-locking arrangement securing it firmly as soon as the Plough is reversed. This also did excellent work.

Mr. Smith used the "Holbrook," but for some reason not apparent to the Committee, the work done was not as good as we expected from a strong team and experienced ploughman. The Swivel Plough was *first* constructed to run on side-hills, so as to avoid turning half the furrows up-hill,—and many Ploughs do good work on land of that description which fail when put on ground as level as that ploughed at the show this year.

It has been the aim of manufacturers of late to construct a Plough that should turn as flat a furrow on level land as any Plough not swivel that could be produced.

In two Ploughs used this year we have the latest results of this effort,—the "Ames' Centennial," used by Mr. Norwood, and the "Pettengill," run by Mr. Perley, either of which would be a valuable addition to the outfit of most of our farms.

Several of the Committee thought that we should have had a better *test* of the quality of the Ploughs and skill of the ploughmen, if the land ploughed had been like most of our

Digitized by Google

farms in this county, in having stones to throw out the plough, or roots of trees to prevent its even running.

As it was, however, no obstruction was met with, and the teams could go at their fastest walk with no danger of being "brought up standing" by striking a fast rock, as so often happens to many of us in breaking up.

We think too much importance cannot be attached to good ploughing, as in actual farming the success of the crop depends largely on the thorough ploughing of the land at the start.

It seems to me that an additional argument to the one often presented for keeping fields free from stones and bushes,—(namely, that they may be mowed easier,)—can be adduced from the fact that it is possible to plough a clean lot *thoroughly* with even furrows and at a uniform depth, at an expense which will be less per acre than is required to *imperfectly* plough a rough and rocky field.

Of course this must be restricted within reasonable limits, as on my own farm, in fields from which stones have been dug out and removed every time the soil has been broken up for many years, we still find some at every ploughing, as they are worked up from below by the frost. Hence it is only in degree, not absolutely, that we farmers of Essex can clear our lands and give free course to the plough.

But doing this as well as we can, with our hands made skilful by practice at home, and our eyes trained to accuracy in the width of our furrows, we shall be ready to enter the lists in friendly rivalry at our annual shows, and shall hope to secure not only the premiums of the Society, but also the larger rewards which skill and enterprise always bring to those who possess them.

Premiums awarded:—

To William A. Russell, Lawrence, with oxen, first premium, $12.

To John P. Foster, North Andover, with oxen, second premium, $10.

Digitized by Google

To Peter Smith, Andover, fourth premium, $5.

To C. J. Norwood, Ipswich, with horses, first premium, $10.

To Edward P. Perley, Danvers, with horses, second premium, $6.

CHAS. J. PEABODY, *Chairman.*

CARRIAGES.

The Committee on Carriages award to John E. Bailey, of Marblehead, for Foster rubber spring Buggy and Sleigh, diploma; Charles Manson, of Haverhill, for three wagons, gratuity, $6; J. W. Joyce, Lawrence, Meat Wagon, $5; Spear & Fifield, Methuen, Grocer's Wagon, $5, and for Wagon, (Provision Dealer's) diploma; William Poor, Andover, Meat Wagon, $5; Geo. H. Ferguson, Lawrence, Light Express Wagon, $5, and for Top Buggy, diploma; M. Barnes, Lawrence, two Top Carriages, $10, and Sleighs, $5.

Committee—A. E. Goodwin, William Gunnison, David Smith, Henry Hobbs.

BREAD AND HONEY.

There were fourteen entries of Bread, one of Honey, and three of Preserves. The Committee award gratuities as follows, viz:

To Mrs. W. Leitch, of Andover, $1.50; Abby Haseltine, of Lawrence, $1; Mrs. J. Pillsbury, of Lawrence, $1; Mrs. Sarah Birtwell, of Lawrence, $1; Mrs. William Brown, of Lawrence, $1; Mrs. E. L. Kent, of Lawrence, $1; Mrs. Jasper Rea, of Andover, $1; Mrs. Stephen E. Abbott, of Andover, $1; Mrs. Rebecca F. Cole, of Andover, $1; Mrs. N. E. Ladd, of Groveland, $1; Broadway Cracker Bakery, Lawrence, $3.

Honey—H. Alley, of Wenham, $2; Silas M. Locke, of Salem, one Model Hive and Observatory Hive, $1.

Preserves—Mrs. J. Pillsbury, of Lawrence, $1; Mrs. A. P. Webster, of Haverhill, 50 cents; N. T. Kimball & Co., of Bradford, 50 cents.

J. A. PUTNAM, *for the Committee.*

Digitized by Google

PEARS.

The Committee award as follows:

Premiums of $3 each, for the following varieties: H. B. Robie, Lawrence, Duchesse; John O'Brien, Bradford, Beurre Clairgeau; Wm. Huff, Newburyport, Marie Louise and Belle Superfin; Albert Kimball, Bradford, Sheldon and Belle Lucrative; S. Sawyer, Lawrence, Winter Nelis; A. J. Hubbard, Peabody, Louise Bonne de Jersey, Swan's Orange, and Urbaniste; T. C. Thurlow, West Newbury, Doyenne Boussock; J. Henry Hill, Amesbury, Buffum and Dana's Hovey; Wm. H. Huse, Newburyport, Seckel; Wm. H. Perkins, Newbury, Howell; D. H. Stickney, Groveland, Lawrence; Peter Waite, Danvers, Bartlett; Edward F. Webster, Haverhill, Beurre Bosc; John Preston, Georgetown, Beurre d'Anjou; Mrs. Dr. Kenney, Lawrence, Vicar; A. Lackey, Haverhill, St. Michael.

Premiums of $1.50 were awarded for the following: M. B. Kenney, Lawrence, Flemish Beauty; J. C. Craig, Lawrence, Beurre Diel; John Preston, Georgetown, Bergamot.

Premiums of $1 each were awarded for the following: Wm. H. Huse, Newburyport, Kingessing, Wm. Huff, Newburyport, Summer Orange; H. G. Herrick, Lawrence, Seckel; H. A. Prescott, Lawrence, Sheldon; S. M. Davis, Lawrence, Duchesse; Q. Bradley, Methuen, Duchesse; P. H. How, Lawrence, Sheldon; T. Johnson, No. Andover, Beurre Clairgeau; J. W. Nichols, Lawrence, Sheldon; Baldwin Coolidge, Lawrence, Sheldon; B. F. Stanley, Newburyport, Lawrence and Duchesse; Albin Yeaw, Lawrence, Winter Nelis; E. B. Currier, do Beurre Bosc; J. S. Ives, Salem, Sheldon; Solomon Fuller, Danvers, Duchesse; Franklin Upton, Danvers, Beurre Bosc; D. H. Stickney, Groveland, Anjou; B. F. Huntington, Amesbury, B. Hardy; T. H. Balch, Groveland, Louise Bonne; Elbridge G. George, Groveland, Sheldon.

T. C. Thurlow, West Newbury, best plate, 24 specimens, premium, $6; A. J. Hubbard, Peabody, best collection, 20

Digitized by Google

varieties, premium, $8; Peter Waite, Danvers, second best collection, 15 varieties, premium, $6; Wm. H. Huse, Newburyport, 10 varieties, premium, $4.

Committee—John W. Marshall, Edward Harrington, Josiah Newhall, Thomas Hale.

APPLES.

The Committee beg leave to report that the quantity offered for exhibition was less, and the quality not as good as is usually shown at the Essex County Fairs.

They award the following premiums of $3 each:—

Henry Thwing, Groveland, Baldwins; Joseph Moore, Peabody, Danvers Winter Sweet; Solomon Fuller, Danvers, Hubbardston: Peter Waite, Danvers, Kilham Hill; B. F. Huntington, Amesbury, Ladies' Sweet; Peter Waite, Danvers, Porter; Peter Waite, Danvers, Pickman's Pippin; W. W. Perkins, Newbury, Roxbury Russet; J. Henry Hill, Amesbury, Rhode Island Greening; Solomon Fuller, Danvers, Sweet Baldwin; J. Henry Hill, Amesbury, Gravenstein; Peter Waite, Danvers, Hunt's Russet.

W. W. Perkins, Newbury, best collection of fifteen varieties, $6; Peter Waite, Danvers, best ten varieties, $4.

Gratuities of $1.50 each to J. Henry Hill, Amesbury, Minister; W. W. Perkins, Newbury, Northern Spy; D. Plummer, Newbury, King of Tompkins Co.; C. C. Barker, North Andover, Baldwin; S. Sawyer, Lawrence, Baldwin; J. Henry Hill, Amesbury, Hyslop Crab; Edwin B. George, Groveland, Hubbardston.

Gratuities $1.00 each, to Peter Waite, Danvers, Fall Harvey; Solomon Fuller, Danvers, Twenty Ounce; D. H. Stickney, Groveland, Hubbardston; A. J. Hubbard, Peabody, Danvers Winter Sweet; D. H. Stickney, Groveland, Northern Spy.

Committee—F. P. Putnam, John T. Wood, James Flint.

Digitized by Google

PEACHES, GRAPES, AND ASSORTED FRUIT.

The Committee have awarded the following premiums and gratuities, viz. :—

Peaches—For the best nine specimens of Freestone White Flesh, $2, to Caleb Saunders, of Lawrence; for the best do. Yellow Flesh, $2, to E. F. Webster, of Haverhill; best do. Essex County Seedling, $2, to A. V. Bugbee, Lawrence. A gratuity of $1 to J. H. Eaton, Lawrence, for Orchard House Peaches; 50 cents each, for single plates, to Joseph Moore of Peabody, Solomon Fuller of Danvers, and Norman S. Cole of West Boxford.

Grapes—For the best four bunches of Concord, Rogers' No. 3 or Massasoit, and Rogers' No. 39, $3 for each variety, to George W. Gage of Methuen; for the best four bunches of Iona, Creveling, Rogers' No. 4 or Wilder, No. 19 or Merrimac, No. 22 or Salem, $3 for each, to E. P. Richardson, of Lawrence; for the best Hartford Prolific, $3, to B. Goodwin, of Haverhill; for the best Isabella and Rogers' No. 15 or Agawam, $3 each, to D. H. Stickney, of Groveland; for the best Delaware, $3, to James Lowrie, of Danvers; for the best Clinton, $3, to L. K. Pemberton, Groveland; for the best Allen's Hybrid, $3, to Baldwin Coolidge, of Lawrence; for the best Diana, $3, to John O'Brien, Bradford; for the best collection of ten varieties of Native Grapes, $7, to Geo. W. Gage, of Methuen.

Your Committee would also award a premium of $1.50 to each of the following persons: E. P. Richardson, Lawrence, for Worden; George W. Gage, Methuen, for Cottage; D. H. Stickney, Groveland, for "Stickney's Seedling;" George W. Ladd, Bradford, "Ladd's Seedling."

This last so nearly resembles the Delaware that the Committee were in doubt—a majority thinking it might be the Delaware not fully ripe; but later information, and an examination of the vine by one of the Committee, has led us to place it on the list of "other worthy varieties."

Digitized by Google

Gratuities—To Peter Smith, of Andover, for a fine collection of Hot House Grapes, $2; to H. B. Robie, Lawrence, $1; to N. Bodwell, Georgetown, $1, for a collection of Native Grapes; to John O'Brien, Bradford, and B. Goodwin, Haverhill, $1 each; to M. W. Bartlett, West Newbury, and Henry Shaw, Lawrence, 50 cents each.

For the best basket of Assorted Fruit, $4, to Peter Wait, Danvers; second best, $3, to A. J. Hubbard, Peabody.

Quinces—For the best plate of Orange Quinces, $1, to Peter Wait, Danvers; for the second best plate of Orange Quinces, $1, to Baldwin Coolidge, of Lawrence.

We congratulate the Society on the decided step in advance which has been made this year in the arrangement of fruit in our hall of exhibition,—that is, of having *each variety* by itself, and not scattered promiscuously on several tables, as has formerly been the case. It has in former years been impossible for any fruit committee to do justice to the exhibitors, and this year we find many of the exhibitors themselves decidedly opposed to this "new arrangement;" especially those who had for many years been in the habit of heaping all their fruit together—thus aiming more for a large "collection," than for more choice specimens of fewer and better varieties. We trust that in future this plan will be more perfectly carried out, and that all the contributors will see the propriety of the new method. We would suggest the importance of having the several fruit committees commence work at an earlier hour, so that a larger part of their duties may be performed before the hall is crowded with visitors.

The display of grapes this year was very fine indeed, and the neat arrangement of the tables was a credit to those who had charge in this department.

This year has been a favorable one for the grape in all this vicinity, as it always does best in a *dry* warm season, without any hinderance from early frosts. Hence we should plant the grape only in the driest and earliest locations. Even in western New York and Ohio, where the climate is much more

Digitized by Google

favorable for this fruit than here, experience has proved to them that grapes can only be grown with any amount of certainty upon the rockiest and driest hillsides. Again we think that experience has proved to us that only the most hardy vines of our purely native species, (the Lobrusca,) can be depended upon for a term of years. This may not be the decision of the whole Committee, for we know that many still adhere firmly to the Rogers and other hybrids, but those of us who have for years made the growing and testing of vines a business, are careful not to invest largely in any grape of foreign parentage; and when any new grape presents itself as the "best yet introduced," the first inquiry should be, does it inherit foreign blood from either of its parents? If so, it will most likely inherit a feeble constitution, followed by mildew and an early death. Careful cultivators may, and often do, succeed for years with these high blooded grapes, but they require constant watchfulness, and a good covering every winter is indispensable. We would not by these remarks discourage any from raising this, one of the most healthful and delicious of all fruits, but would rather encourage every one whose circumstances will permit, to do it *intelligently*—to select none but the most approved hardy varieties, and plant and cultivate as experience has proved best for this locality. The discouragements which seemed to hang over us a few years ago in the shape of blight and mildew, have in a great measure passed away, and we can but hope that a "new era in grape culture" is about to dawn upon us.

There were but few *peaches* presented this year, the crop having been very nearly a failure, and only the latest ones could be kept for this exhibition. This crop, which is generally considered uncertain in New England, has for several years past been a partial success, especially in certain high, dry locations in this vicinity, where an *entire* failure has not occurred for something over twenty years before. Just warmth enough to swell the fruit buds at a certain time during winter, and then a sudden freeze afterwards, was evi-

Digitized by Google

dently the sole cause of this failure, as the trees never looked more healthy and promising, than in the autumn before.

This fall again we have reason to take courage and hope for the best, and trust that at some future time, when we have learned more fully the requirements of the peach, we shall be blessed with plentiful crops, as of old. We would suggest to novices, however, who design to plant peach trees, that they require a *dry* soil, thoroughly cultivated, but no animal manure of any kind, but rather muck, and especially *potash* in liberal quantities. The aim should be not to produce a late growth, but healthy, well ripened wood, which is the only kind that will endure our winters. Trim out all dead and sickly wood every year about the first of June. Plant *hardy* and rather early varieties. Many kinds recommended by nursery agents are too late, and will not ripen at all in this latitude. For orchard culture, do not plant too thickly.—16 or 18 feet is near enough. Training upon fences, and pegging down branches to be covered in winter, is very pretty amusement for the amateur, and orchard house culture for those who can afford it is very pretty and sometimes profitable.

Premiums are annually offered for the best Baskets of Assorted Fruits, but scarcely ever more than two competitors appear for the prizes, and these with very little variation from year to year. Cannot others take hold in this department, and give us something still more tasty and elaborate than we are accustomed to see? It certainly would add much to the attractions of the hall, besides giving us a little more pleasant rivalry.

Quinces, your Committee have taken under their special charge, as neither the Committee on Apples nor Pears thought they belonged to them. Two very nice plates of Orange Quinces were presented, and both took the first premium; but certainly this fruit ought not to be overlooked, especially as long as it brings such high prices and can be so easily raised.

Digitized by Google

One other fruit is worthy of remembrance, which we formerly raised in great abundance in this county, but which now we never see upon our exhibition tables,—namely, the Plum. Why should this fine fruit be wholly abandoned, as long as it has been fully proved that its two greatest enemies, —the Curculio and the Black Knot,—can be successfully dealt with? Then we have new, but coarse varieties, that are hardly affected by these enemies at all, and which even for cooking purposes would well repay the trouble of raising. We sincerely hope we shall see the time when this fine old fruit will be cultivated to some extent, if we do not have it in its former abundance.

Respectfully submitted,

Committee—T. C. Thurlow, D. H Stickney, J. Henry Hill, Richard Ward, Peter Wait.

FLOWERS.

The display in this department was very good, and yet the Committee could but regret that so few of the towns in our County sent contributions to this most attractive feature of our Fair. So much progress has been made in the last few years, in the public taste as well as in the cultivation of flowers, that we are led to expect a finer display each year from the many gardens of our good old county.

Those ladies who sent the numerous and varied collections of wild flowers deserve especial commendation. There were many rare and beautiful varieties, and their tasteful arrangement added much to the beauty of the floral department.

The ladies of Lawrence deserve much credit for the kindly interest and zeal they manifested in this exhibition of the Society. The fine effect of the flowers and plants displayed was due to their skilful arrangement.

The Committee found a serious drawback in the lack of vases or dishes suitable for the display of cut flowers, and

Digitized by Google

hope the Society will heed the suggestions of the Committee of last year, and furnish better accommodations for future exhibitions.

We would suggest that the younger portion of our county be encouraged to contribute to this department, by the offering of premiums for bouquets or flowers raised by youth under fourteen years of age.

While we are glad to welcome the beautiful plants and fine flowers of the professed florist to our exhibitions, yet we would suggest that premiums should rather be awarded to individuals who cultivate a few flowers for their own pleasure, and succeed in raising fine specimens.

We hope to see the premium list revised, or enlarged, before another exhibition, so as to include some new and fine varieties of flowers.

The Committee award as follows:—

Best pair Bouquets, first premium, E. W. Hatch, Haverhill, $3. Gratuities of 50 cents to E. Flynn, Lawrence, Emily F. Carleton, North Andover, Mrs. J. H. Hill, Amesbury.

Best Hand Bouquets, first premium, E. Flynn, Lawrence, $3. Gratuity, 50 cents, L. P. Weston, Danvers.

Floral Designs, first premium, Miss Emma Gage, Methuen, $2. Gratuities, E. Flynn, Lawrence, $2; Mrs. N. E. Ladd, Groveland, $1.

Cut Flowers, first premium, Mrs. L. P. Weston, Danvers, $2. Gratuities, $1 each, to Mrs. Henry Brickett, West Newbury, and Industrial School, Lawrence; 50 cents to E. J. Craig, Haverhill.

Dahlias, first premium of $1 to E. Flynn, Lawrence. Gratuities of 50 cents each to Mrs. J. H. Hill, Amesbury; Mrs. E. W. Hatch, Haverhill.

Gladiolus, first premium of $1 to Mrs. Henry Hill, Amesbury.

Petunias, first premium, $1, to Miss Emma Gage, Methuen. Gratuities, 50 cents, to Mrs. J. H. Hill, Amesbury; Miss A. Page, Groveland.

Digitized by Google

Pansies, first premium, $1, to Mrs. John L. Hutchinson, Lawrence. Gratuities, 50 cents, to Mrs. J. H. Hill, Amesbury; Mrs. M. S. Jenkins, North Andover; Miss Addie Page, Groveland.

Phlox, first premium, $1, to J. H. Hill, Amesbury. Gratuity, $1, to Miss Emma Gage, Methuen.

Verbenas, first premium, $1, to E. Flynn, Lawrence. Gratuity, 50 cents, to Industrial School, Lawrence.

Best Native Flowers, first premium, $1, Mrs. M. E. Fuller, Middleton. Gratuities, $1, to Miss Emma Gage, Methuen; Mrs. Wm. Horner, Georgetown; 50 cents to A. D. Batchelder, Georgetown.

Largest and Best Display by one individual, E. Flynn, Lawrence, $4. Gratuities, 50 cents each, Cut Flowers, J. W. Smith, Andover; Orpine Plant, Mrs. Jane Sweet, Lawrence; Fernery, Mrs. W. S. Horner, Georgetown; Aloe, Mrs. E. W. Hatch, Haverhill; Apple Blossoms, G. H. Tufts, Middleton; Egg Plants, Mrs. F. F. Tucker, Lawrence; Arbutulon, Mrs. W. T. McClure, Lawrence; Ferns, A. R. Gage, Boxford; Begonias, E. Flynn, Lawrence, $1; Japan Lilies, 50 cents, to Mrs. J. H. Hill, Amesbury; Climbing Fern, Charles Flynn, Lawrence; Hand Bouquet, Mrs. S. S. Knox, Lawrence; Hand Bouquet, Mrs. J. H. Hill, Amesbury; Cactus, Mrs. A. D. Griffin, Haverhill; Orange Tree, Charles Flynn, Lawrence; Rustic Stand, $1, to E. F. Webster, Haverhill; Cactus, Coleus, and Ferns, Charles Flynn, Lawrence, three gratuities, $2.50.

MRS. CHARLES PERLEY, *for the Committee.*

VEGETABLES.

The Committee, on repairing to the tent devoted to the show of Vegetables, found the display not as large as usual, but were much pleased that the superintendent of this department of our show had arranged the different varieties of veg-

Digitized by Google

etables in their respective classes, so that the labors of the Committee were much facilitated by having all the specimens of each variety exhibited together.

We would strongly urge all exhibitors to conform *precisely* to the rule adopted by the Society in relation to the amount and size of vegetables to be exhibited.

We found some exhibitors showing a much larger amount than was necessary to compete for the premiums, exhibiting a bushel when only a peck was required. If they would select only the required number or amount, taking none but the most perfect and best adapted for the use to be made of them, they would be much more likely to secure a premium than before. If, for instance, in selecting the Potato for exhibition, as that is almost entirely used for the table, every one would admit at once that those specimens best adapted in size and quality for that use, would be entitled to the premium over other specimens, though larger, but of coarse and inferior quality.

Or, supposing the vegetable exhibited is devoted entirely to the use of stock, as the Mangel Wurtzel, all would say that the largest specimens, or those furnishing the most food and nutriment, should take the premiums.

So on through all the varieties of vegetables, if exhibitors would be more critical in their selections, according to the uses to be made of them, and exhibit only the requisite amount, our tables would show a more tasteful and uniform appearance, and give better satisfaction, not only to the Committee and exhibitors, but to all visitors who look upon them.

Hoping these few suggestions may be acted upon in our future shows, your Committee submit the following awards of premiums :—

A premium of $3 is awarded for each of the following varieties :—Levi Emery, Lawrence, E. T. Beet; Virgil Dow, Methuen, L. O. Carrots and P. T. Flat Turnip; M. F. Batchelder, Peabody, S. H. Carrot and Musk Melon; T. O. Wardwell, North Andover, Mangolds; A. W. Phippen, Methuen,

Digitized by Google

Ruta Baga; G. W. Russell, Lawrence, Parsnips; R. T. Jaques, Newbury, Danvers Onion; J. J. H. Gregory, Marblehead, Y. F. Onion, Red Onion, Hubbard Squash, Marblehead Squash, Melon, green flesh, Acme Tomato, best collection of Tomatoes; Henry Webber, North Andover, E. R. Potato; N. G. Abbott, Andover, Fottler Cabbage, Stone Mason Cabbage; R. Goodwin, Haverhill, Savoy; C. R. Anderson, Boxford, Red Cabbage, Cauliflower; Peter Smith, Andover, Celery; C. K. Ordway, West Newbury, Field Corn; G. B. Bradley, Methuen, Sweet Corn; G. S. Phippen, Methuen, Marrow Squash; C. O. Putnam, Danvers, Turban Squash; Frank M. Dow, Methuen, Watermelon; A. E. Low, Essex, Paragon Tomato, Trophy Tomato; H. A. Stiles, Middleton, Cranberries.

A second premium of $2 each for the following: M. F. Batchelder, Peabody, Fottler Cabbage, Red Cabbage; C. O. Putnam, Danvers, Savoy Cabbage; M. C. Andrews, Andover, Stone Mason; O. P. Killam, Boxford, Cranberries; Joseph S. Holt, Andover, Cranberries, $1; J. J. H. Gregory, Marblehead, Garden Seed, premium, $8.

Gratuities of $2 each as follows: G. W. Russell, Lawrence; G. B. Bradley, Methuen; Colin Johnson, North Andover; Luke Cunningham, Andover; Edwin Upton, Andover; C. R. Anderson, Boxford; $1.50 to Allen Lee, Manchester; $1 each to Miss Dove, Andover; A. F. Clark, Lawrence; Henry Nice, Lawrence; 50 cents each to Richard Warwick, Lawrence; Amos B. Poor, Haverhill; Daniel Carlton, North Andover; R. Goodwin, Haverhill; E. F. Webster, Haverhill; E. P. Richardson, Lawrence.

AARON LOW, *Chairman.*

COUNTERPANES, CARPETINGS AND RUGS.

WROUGHT COUNTERPANE.

First premium, no award. The Committee did not judge *any* of the entries as combining sufficient excellencies to be worthy of the first premium.

Digitized by Google

Second premium, $2, awarded to Abbie R. Howe, for meritorious combination of colors, giving good general effect, and good workmanship.

Gratuities of $1 each, were awarded to Mrs. S. Allison, Lawrence, two quilts, well wrought and arranged; Mrs. J. M. Ingalls, Danvers, one Centennial quilt, well wrought and designed; Mrs. R. M. Leavitt, Danvers, Quilt made of two colors only, giving good effect; Mrs. N. G. White, Lawrence, Silk Counterpane, well wrought and designed; Mrs. Henry R. Abbott, of ———, one Quilt of many pieces, very neatly sewed and arranged; Mrs. Frank C. Came, Haverhill, one Quilt, simple design, giving good effect, well wrought.

HAND-WROUGHT CARPET.

First premium, $5, awarded to the Orphan Asylum, Lawrence. This was the only entry, well and neatly made, and of good design.

WROUGHT HEARTH RUGS.

First premium, $3, awarded to Mrs. H. C. Crocker, Haverhill, for harmonious arrangement of colors in design, excellence of workmanship, and utility.

Second premium, $2, Mrs. T. P. Frost, Lawrence, Rug, thoroughly and neatly made, nicety of finish and appearance.

Gratuities of $1 each were awarded to C. W. Kendall, Lawrence, Braided Rug, well made and very serviceable; Mrs. Mary S. White, No. Andover, five Rugs, for variety of designs, and good work; Mrs. Ada Trull, Lawrence, four Rugs, well made and nicely finished; Mrs. Rebecca Colby, Lawrence, one Rug, well and neatly made and finished.

CARRIAGE ROBE.

Gratuity of $2 to Mrs. Anna H. Rowe, Lawrence.

F. E. CLARKE, *Chairman.*

Digitized by Google

LEATHER WORK.

The Committee have examined the articles exhibited, and regret that a larger number of articles could not have been presented. But the articles are of superior workmanship and stock, and well worthy of a premium. We therefore award each exhibitor a premium of Five Dollars.

Thomas F. Hill, Georgetown, one Single Harness, gratuity, $5; E. A. Putnam, Beverly, one Single Harness, $5; P. B. Robinson, Lawrence, one case Shoes, $5.

Committee—John I. Ladd, E. W. Jacobs, Warren Ordway.

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee award to Thomas Hall, Lawrence, Mangle, $3; B. S. Hale & Son, Lawrence, Fish Lines, $2; Smith & Dove, Andover, Flax and Flax Threads, $2; Carter & Wilson, Lawrence, Hosiery, $2; John M. Richards, Lawrence, Piano, $2; W. L. Dustin, Lawrence, Planes, $1; Mrs. Symonds, Lawrence, Case Millinery, $4; Mrs. M. S. Anderson, Case Millinery, $2; Chas. J. Gillon, Lawrence, Steam Engine, $1; J. Batchelder, Lawrence, Lap Board, $1; G. A. Osgood, Haverhill, Spring Bed, $1; M. Donovan, North Andover, Hand-made Horse Shoes, $1; H. C. Sleeper, Haverhill, three Canes, $1; A. J. Walker, Lawrence, Spice Holder, $1; A. Nichols, Danvers, Silk Cocoons, $1.

Committee—A. P. Bateman, H. M. Goodrich, Wm. D. Lamb.

FANCY WORK AND WORKS OF ART.

Premiums of $3 to Mrs. J. Hosmer Kendall, Lawrence, Oil Painting; Miss M. P. Needham, Oil Paintings; Mrs. Walter R. Rowe, Lawrence, Pillow Sham Embroidery; Mrs. A. P. Newhall, Lynn, Pen Marking, twenty-four pieces.

Digitized by Google

Premiums of $2 to L. Joseph Fell, Lawrence, eight pictures; H. Bundy, Lawrence, Oil Portraits; A. C. Puffer, Methuen, Butterfly collection; Mrs. Parker Cross, Methuen, Collection of Insects; F. W. Coffin, Marblehead, Fancy. Worsted Work; W. F. Roaf, Lawrence, Jack Knife Carving; George C. Stevens, Lawrence, Carved Wood, Frieze.

Premiums of $1 to Miss M. E. Morrison, Lawrence, Oil Paintings; A. C. Saunders, Haverhill, Leather, Felt and Paper Canes; Mrs. C. T. Wilcox, Lawrence, Sofa Pillow; Miss A. E. Foster, Methuen, Worsted Wreath; Mrs. D. G. Myrick, Lawrence, Hair Wreath; Miss D. L. Fisk, Lawrence, Pillow Cases; Mrs. H. G. Cummings, Lawrence, Silk Embroidery; Mrs. E. E. Mann, Lawrence, Mottoes; Mrs. L. S. Blanchard, Lawrence, Birch-Bark Pictures; Mark Knipe, Haverhill, Stuffed Birds; Anson L. Griffin, Lawrence, Stuffed Owl; S. Huse, Methuen, Chair and Foot Rest; N. E. Abbott, Lawrence, Jig Sawing; Miss L. S. Blanchard, Birch Bark Pictures; Mrs. Caleb Saunders, Lawrence, Fire Screen; George Jones, Lawrence, Model Ship; T. C. Rogers, Lawrence, Button Cross; Miss N. G. White, Lawrence, Fancy Work.

Premiums of 50 cents to Miss M. O. Barrett, Peabody, Oil Paintings; Maria Kimball, Haverhill, Sofa Covering; Chester Chubb, Lawrence, Picture Frame; Mrs. F. C. Wiggin, South Lawrence, Wax Cross; Mrs. Joseph Churchill, Lawrence, Motto; Mrs. Charles Hodge, Lawrence, Tidy; Miss E. H. Sugatt, Lawrence, Wreath; Miss E. F. Carleton, North Andover, Tidy; Mrs. J. E. Kimball, Lawrence, Moss Cross; A. L. Griffin, Lawrence, Stuffed Owl; James Sanderson, Lawrence, Crayons. Baldwin Coolidge, Lawrence, $3, for specimens of Modelling.

Committee—Mrs. A. P. Clark, Mrs. H. L. Bowdoin, Mrs. F. S. C. Herrick.

Digitized by Google

CHILDREN'S WORK.

The Committee have examined the articles exhibited, and have awarded the following premiums and gratuities:—

Maud Hunkins, Lawrence, 3 years 5 months old, one quilt, $3; Charles Dunning, Lawrence, one Painting of Peaches, $1; Laura F. Dunning, one Picture, (Spatter Work,) $1; Georgie F. Whitcomb, Doll's Dress, $1; Hattie Morrill, Lawrence, Rug, $2; Minnie L. Bean, Lawrence, one case Worsted Birds, $1; Martha E. Coupe, Worsted Motto, $1; John S. Colby, one Bracket, $1; Maud Rodencizer, Edging, $1; Caddie Hutchinson, Hair Pin Holder, 25 cents; Clara A. Day, Motto, $1; Mary M. Blanchard, Silk Quilt, $1; Nellie Bingham, Tidy, 25 cents.

Committee—Mrs. Edward W. Jacobs, Mrs. L. H. Bowdoin, L. B. Hood.

IMPROVING PASTURE AND WASTE LAND.

Two members of your Committee met upon the 12th day of July, visited the farm of Joseph Horton, of Ipswich, and inspected the tract of land entered by him for premium. There being no other competitor, we award to him the premium of $15. The mode of experimenting by Mr. Horton, is fully set forth, and in a clear manner explained, as appears by his statement annexed.

The nature of the soil, and all results of his experiments, appear to the Committee as well worthy of mature consideration by members of our Society,—that from the experience of one, large numbers may derive material benefit, as upon every farm in the County there are tracts of land which may be greatly improved.

Benefits resulting from experiments upon unproductive tracts of land, tend to strengthen the cultivator of the soil, and any improvement advancing the value of land, is of pecuniary benefit, not only to the actual owner of the soil, but to the community as a whole. No prosperous business can

Digitized by Google

be carried on which confines the advantages derived thereby within a narrow circle, as success in one branch of business assists another. Each acre of land, now unproductive, that is made to produce any description of crop whatever in paying quantities, adds so much to the general welfare of the whole, and should thus be recognized.

The experiments of Mr. Horton are only starting points, from which others may begin and extend their operations, and prove more successful than they have heretofore done. We cannot rest on present results with a confidence that nothing more permanent or productive can be realized. The wheels of improvement are constantly moving, and happy is the originator of any experiment which will tend to accelerate the movement towards prosperity. Every unproductive acre of land treated by Mr. Horton's method, is enhanced in value, and makes the owner thereof more prosperous and wealthy.

Your committee would recommend to all to try experiments upon some piece, large or small, marking the results, and keeping a full record of every item of expense and the amounts realized, preparatory to a more extended and thorough development upon a larger scale; thus exhibiting plainly the advantages made to appear yearly, and giving to the agriculturist the result of the various modes employed to bring about favorable results.

We trust that Mr. Horton may still continue to improve his pastures, making known to us future operations upon other lands to be reclaimed by him; and that the termination of his annual labors may be presented to us, showing more profit over the expenditure made; and that from his experience many others may in a similar manner present for our consideration improvements in the same line of procedure, thus presenting greater inducements to the husbandman to advance in his profession, with good profits upon the enterprises he may undertake for the benefit of himself and posterity.

Committee—Amos Poor, Benj. S. Barnes.

Digitized by Google

STATEMENT OF JOSEPH HORTON.

To the Committee on Improved Pasture Lands. Gentlemen:—The land that I offered for your inspection, has been in pasture a great many years,—not having been ploughed or cultivated within the memory of my oldest neighbors,—and measures 152 sq. rods. The soil varies from a stiff clay to a light, yellow loam; and the surface, for the most part, is covered with small, low bushes.

Treatment. With a strong pair of oxen and a plough,—and I find that a medium-sized plough, with a straight, sharp coulter reaching to the plough-point, is the best,—I plough off the hillocks and ridges, frequently assisting the team by cutting through the roots with an old axe. After ploughing I leave the furrows exposed to the sun for a few days, and then cut and cart into a heap to burn.

A fire is started at once, and is kept burning until everything is consumed. The field was then ploughed, rolled, and harrowed, in the usual manner, and seeded to Winter Rye, nine cartloads of ashes, the product of the fire, being applied as a dressing.

The next spring the piece was sown to grass, as the rye, which looked well in the fall, was badly winter-killed. I got but ten bushels of rye. The following gives the cost of the improvement:—

Dr.

To 2 men and 1 pair of oxen ploughing off sods	1 day	$6	00
" " " " clearing	" 2 days	12	00
" " " " ploughing	" 1 day	6	00
To 1 man and 1 pair of oxen harrowing & rolling	1 day	4	00
To 2 men and 1 pair of oxen spreading ashes	1-2 day	3	00
Cost of seed,—rye and grass		3	00
		$34	00

Digitized by Google

Cr.	
By 10 bushels of rye, at $1.00,	$10 00
By 2 1-4 tons of hay, at 20.00,	45 00
	$55 00
	34 00
Balance in favor of improvement,	$21 00

The grass was of the first quality, and was estimated by the Committee to average two tons per acre.

To satisfy others as to the value of these ashes, I selected a piece adjoining the former, that was free from bushes, and, after the usual preparation, sowed it to grass.

The piece measured 100 sq. rods, or 5-7 of an acre, and instead of ashes eight heaping cart-loads of stable manure were applied as a dressing.

The Committee saw the grass upon both pieces, and my figures, in regard to the crops are taken from their estimate. The following is the cost of preparing the second piece:

Dr.	
To 2 men and 1 pair of oxen ploughing 1 day (nearly)	$5 00
To 1 man and 1 pair of oxen harrowing and rolling,	3 00
Carting and spreading manure,	6 00
Seed,	1 00
Value of manure,	16 00
	$31 00

Cr.	
By 28 cwt. of hay, at $20.00 per ton,	$28 00
Balance,	$3 00

Notwithstanding the great amount of opposition that I have met with from those who consider themselves authority, I still persistently adhere to my former opinions, both as regards the value of the ashes and the method of clearing.

Digitized by Google

I have given both a fair trial, extending over quite a number of years, submitted them to repeated tests, and am satisfied in my own mind that they have a value which is not by all appreciated.

As to the statement, I can furnish responsible parties who will act as vouchers should it be desired; and no inaccuracies of accounts in the main will be found.

Leaving all to your better judgment, the whole is very respectfully submitted.

MANURES.

Three statements of experiments with Manures have been received by the Chairman of the Committee. They came from Benjamin P. Ware of Marblehead, James P. King of Peabody, and Francis H. Appleton of West Peabody. The first premium, of $15, is awarded to Mr. Ware; the second, of $10, to Mr. King. Mr. Appleton's statement came after the Trustees' meeting, at which the awards were accepted, and therefore too late for a premium, but not too late for the Society to get the benefit of his experiment.

Mr. Ware's statement leads one to infer that the main point of his experiment was to determine which of two prominent commercial fertilizers is the best for his land. For that purpose the experiment was very successful, for one gave a much better crop of corn than the other. But as Mr. Ware did not test the productive capacity of the land without manure, we have no data from which to calculate the cost of the corn produced by either fertilizer.

The main point of Mr. King's experiment seems to have been to determine whether it is good economy for him to grow corn with the Stockbridge Fertilizer. His crop was large; his land was evidently in good condition without the fertilizer, but as he did not test its capacity, we cannot tell how much the fertilizer increased the crop.

Digitized by Google

Mr. Appleton's experiment was a test between the Stockbridge and Stable Manure, with present results very much in favor of the Stockbridge Fertilizer.

I think it well for practical farmers, one and all, to admit that chemical fertilizers are, and are to be, to stable manure, what coal is to wood, what kerosene is to whale oil; they are to come out of the earth to supply the wants of man, when the surface supply gets short.

The first question for every farmer to ask about chemical manures is, do I need them at present prices? Second, if needed, how determine what is needed? Some buy what is supposed to be a complete fertilizer for all plants. If they get this, they get what is needed, and probably pay for much that is not needed. Some buy a complete fertilizer for the special crop they wish to grow; if they get this, they get what is needed, and perhaps some that is not.

The Connecticut farmers, under the advice and direction of Prof. Atwater, of the Connecticut Experiment Station, are finding out what their land needs, by experimental tests with separate ingredients of plant food. By so doing, they are cultivating their powers of observation, and reducing the cost of fertilizing to the lowest point.

Prof. Atwater says: "Chemists cannot prescribe for soils as doctors do for patients." He also says: "Stable manure is a complete fertilizer. It contains all the ingredients of plant food, and its organic matter improves the mechanical condition of the soil besides. It is a standard fertilizer, and useful everywhere. To learn by what artificial fertilizer this can be supplemented, in any given case, is, as I have often insisted, best settled by experience and experiment."

Mr. Ware's experiments show that Darling's Animal Fertilizer is much better for growing corn on his land than the Stockbridge; also that the Stockbridge grew better onions than stable manure.

Mr. King's experiment shows that the Stockbridge Fertilizer works well on his land, and if he can continue to grow

Digitized by Google

such crops year after year with the same amount of fertilizer, he can get his corn cheap; but if Darling's will do as much better for him as it did for Mr. Ware, he can grow it still better with that.

Mr. Appleton's experiment is the most interesting to me, because the Stockbridge Fertilizer is brought in competition with stable manure. Mr. Ware's experiment, combined with Mr. Appleton's, shows me that I do not need either the Stockbridge or Darling Fertilizer, for I can get all the good barn cellar manure I think it good economy to use on what land I have, at $4 per cord, or less, including the cost of putting it on the land. I get it by buying hay and grain, and making milk and manure. Since the spring of 1874, I have bought between three and four thousand dollars' worth of hay and grain for making milk. I know the milk has paid for the hay and grain, besides keeping the stock of cows good, and that the labor of tending stock and manure will not amount to more than $4 per cord for the manure, after it is spread on the land. I have barn room enough for as many animals as I have acres of land, and a ready market at the door for as much milk as I care to make. These are conditions which few farmers have, but under these conditions I have no need for chemicals. If Mr. Appleton had been able to get stable manure for $4, instead of $10, the cost of manure and fertilizer would have been about equal, and the manure crop would have been 22 1-4 bushels of ears more than the fertilizer crop.

Admitting that the Darling Fertilizer would have done as much better for Mr. Appleton as it did for Mr. Ware, the manure crop would still have been ahead. The fertilizer question is a very important one to the market gardener, who has to buy all his manure, and experiments which determine the relative value of chemicals to stable manure are very valuable to all who purchase manure. There is a valuable lesson to onion growers in Mr. Daniel Carlton's plan of using barn manure one year, and Cumberland Superphosphate the next,

Digitized by Google

on the same land, and thereby growing premium onions every year.

It is safe to add that one reason why farmers need so much is because they have let so much run to waste. My advice to all is, to save all before buying any.

ANSEL W. PUTNAM, *for the Committee.*

STATEMENT OF BENJAMIN P. WARE.

The one acre of land upon which the following experiment was tried, was ploughed up four years ago, having been in grass for eight or nine years before, and was quite run out. It has a gravelly subsoil, is level, and is what would generally be considered good corn land. The first year after breaking up, it was manured with seven cords of good compost manure per acre, and planted with squashes. The second year it was manured as above and planted with potatoes. The third year it was manured with sufficient of Stockbridge Corn Fertilizer, purchased of W. H. Bowker & Co., as would produce, according to his formula, seventy-five bushels of corn per acre over and above the natural yield of the land without any fertilizer, which I considered would be forty bushels per acre, and the product was eighty-one bushels of very sound shelled corn.

The fourth and last season I divided the acre into two equal parts, with no noticeable difference in the quality or location of the land. After ploughing, I spread upon one half, which I will designate as lot No. 1, 704 lbs. of Darling's Animal Fertilizer, bought of Whittemore Bros., costing, with freight, $15.08, and 40 lbs. of Muriate of Potash, costing $1.40, both amounting to $16.48. On the other half, lot No. 2, I spread three bags of Stockbridge's Corn Fertilizer, which, according to his formula, was expected to produce at the rate of sixty bushels per acre above the natural product of the land, costing, with freight, $17.25.

The corn was planted with Ross & Co.'s corn planter, and cultivated wholly with his cultivators, without any hand labor, except pulling out a few scattering weeds that the culti-

Digitized by Google

vator failed to cover sufficiently. This system left the crop clean of weeds, and reduced the cost of cultivation very materially, which cost of cultivation and harvesting in the barn I make $19.50 for the whole acre. The product of lot No. 1 of sound ears of corn was 2597 lbs., of which it took 74 lbs. to make 56 lbs. of shelled corn, making 35 1-10 bushels of shelled corn, and 3070 lbs. of stover, at $8 per ton, would be worth $12.28, which, being deducted from the cost of production,—fertilizer, $16.48 half of cultivation, $9.75= $26.23,—would give the cost of 35 1-10 bushels corn $13.95, which is .39 per bushel. The product of lot No. 2 was 2085 lbs. of ears = to 28 1-10 bushels shelled corn, and 2360 lbs. of stover, valued at $9.44, which deducted from cost of production,—fertilizer $17.25 + cultivation $9.75 = $27.00—leaving $17.56 cost of 28 1-9 bushels, or 62 1-2 cents per bushel. Thus showing that, all other things being equal in this experiment, it cost 39 cents to grow one bushel of 56 lbs. of shelled corn with Darling's Animal Fertilizer, and 62 1-2 cents with Stockbridge's Fertilizer.

In connection with the foregoing, I also submit the following experiment, not carried out with so much exactness, but showing important results :—

With one half acre of good strong land, that had been well manured for two years, and upon which onions were sown last year, but owing to an unfavorable season the crop was a failure. Upon four-sixths of this lot I spread, after ploughing, four bags of Stockbridge's Onion Fertilizer, prepared by W. H. Bowker & Co., of whom I purchased it for $6 per bag, costing at the rate of $72 per acre, and on the rest of the lot I applied good compost manure, such as I thought would be suitable for onions, at the rate of eight cords per acre, costing, I judge, when applied, nine dollars per cord, or $72 per acre. I called upon several disinterested gentlemen to examine the crop when growing, and pass judgment upon the different parts of the piece, and all agreed with me, that, without measurement, the crop where the Stockbridge

Digitized by Google

Fertilizer was applied was considerably better than where the manure was used, the cost being the same.

In submitting the statements of these experiments on the application of manures, I desire to call your attention to the importance at the present time of carefully conducting such experiments, that we, as practical farmers, who have a living to get by our farming operations, may be able to decide first, can we afford to buy the chemical fertilizers at the prices demanded for them; and, if so, are they an economical substitute for animal or barn manure? Or if used, will our lands retain their present fertility, or increase it, by their use? These are vital questions, that can only be decided by careful experiments and for several years. And I trust the members of our Society may take an active part in solving these questions to our benefit.

Very respectfully,

BENJAMIN P. WARE.

STATEMENT OF JAMES P. KING.

The crop of Indian Corn which I offer for premium as an experiment, grew on one acre of land. The land is of a black soil, with somewhat of a clay bottom. The land was first ploughed in 1875, eight inches deep. Raised a crop of cabbage the same year, using about five cords of manure of inferior quality. In 1876 I planted the same piece with potatoes, using about the same quantity of dressing, of good quality, from my barn cellar. The present year I planted the same piece to Indian corn, using $20 worth of Stockbridge Fertilizer, a little less than is recommended per acre for corn. It was planted June 5th in rows both ways, hills three and one half feet apart, putting the fertilizer in the hill, with the following result: Cost of ploughing and harrowing, $5.00; cost of fertilizer, $20.00; hoeing with horse hoe, $2.00; cost of cultivating six times, $9.00; cost of weeding twice, by boys, $2.00; cost of seed and planting, $4.00; cost of harvesting and storing, $10.00. Weight of corn on the ear,

Digitized by Google

7650 lbs. Estimating 85 lbs. of corn on the cob to make a bushel of shelled corn, leaves 90 bushels per acre.

90 bushels of corn, at 70 cents per bushel,	$63.00
Value of stover,	20.00
	$83.00
Deduct expense,	52.00
	$31.00

The above statement I believe to be correct.

JAMES P. KING.

STATEMENT OF FRANCIS H. APPLETON.

I have this season used some of the Stockbridge Fertilizer for corn, which is manufactured by W. H. Bowker & Co., Boston, and I believe that the facts in the case, which I give herewith, will not only be interesting but useful to farmers in the county. I trust that you can publish them under some heading in the Transactions for 1877.

I have carefully surveyed the land, and computed, as accurately as possible, the labor, etc., employed, and also with equal care the results. I have also, for the sake of comparison, studied in a similar way a piece of land sown to corn and manured with stable manure.

The land was all manured the season of 1876 with stable manure, (about six cords to the acre,) for potatoes, on an inverted grass sod. This year's corn crop got an earlier and better start on the fertilizer piece than on the stable manure piece, both pieces being sown at the same time.

The question arises, as to how much each crop depended upon the manure left by the potatoes of 1876. Also how much succeeding crops will benefit by the manure left in the land from the stable manure applied this season, and whether any of the fertilizer remains in the land for future use.

The larger crop on the manured piece cost more to harvest, as is shown by the figures. In my cost the manure has to be hauled seven miles. Every farmer can calculate the compar-

Digitized by Google

ative cost of fertilizer and stable manure, which must vary according to circumstances. I have reduced the results to an acreage, and give them below:—

Total cost of raising crop, including interest and taxes, labor in planting, tending and harvesting, per acre, not including cost of fertilizer,	$36 08		
Cost of fertilizer, (Stockbridge Manure,)	23 03	—$59	11
2613.19 lbs. tops,			
5536.30 lbs. butts,			
8149.49 lbs. stover, at $8,		32	30
112 1-2 bushels corn on cob, per acre,		$26	81
Total cost of raising crop, including interest and taxes, labor in planting, tending and harvesting, per acre, not including cost of stable manure,	$38 33		
Cost of six cords stable manure, delivered on farm,	66 00	—$104	33
2655.67 lbs. tops,			
5669.62 lbs. butts,			
8325.29 lbs. stover, at $8 per ton,		32	66
134 3-4 bushels of corn on cob, per acre,		$71	67

The corn was equally good and of excellent quality in each case.

Yours very respectfully,

FRANCIS H. APPLETON.

GRAIN CROPS.

The Committee on Grain Crops were notified to view the corn crop of George L. Flook, West Newbury, and accordingly, on the fifteenth day of October, three members of your Committee met at Mr. Flook's farm, on old "Craneneck Hill," proceeded at once to the duty assigned them, and submit the following report, asking that the careful consideration of all interested in the cultivation of corn be given to

Digitized by Google

the experiments of Mr. F., and to the *facts* herewith presented.

We found a field of nearly three acres of excellent corn, growing upon a gravelly soil, on the southeasterly slope of the hill. One acre of this field was entered for the premium. Mr. Flook stated that the land was broken up last spring, and upon one half acre a compost of hen manure and barn-yard scrapings, valued at $10, was spread broadcast and harrowed in. The other half acre was treated with $10 worth of the Stockbridge Fertilizer, in the same manner. A few rows adjoining received a dressing of ashes. Here the difference was plainly visible, and showed greatly to the disadvantage of the ashes, for not only was the crop very much *smaller*, but the quality of the corn was also *inferior* to that raised upon either the compost or the Stockbridge formula.

The corn was tarred, to prevent the depredations of the birds, and planted in checks three and one-half feet apart, each way, care being taken never to exceed six kernels to the hill. It should be stated that the compost was applied to the lower, and the Stockbridge formula to the upper, and consequently earlier and dryer end.

Your Committee selected one rod, an average, from both the lower and upper ends, husked and weighed the corn, remarking that the crop on the upper end was filled out better and also dryer.

The corn raised upon one rod, with the Stockbridge formula, weighed 59 1-2 lbs. The corn raised upon one rod, with the hen manure compost, weighed 59 lbs.

The Society's standard has been from 72 to 80 lbs. to the bushel. This would give in the one case over 131 bushels, and in the other over 118 bushels of shelled merchantable corn per acre—an unprecedented crop. We were not satisfied with this result, and believing that it requires more than 80 lbs. of corn on the ear to the bushel, we determined to test the matter *thoroughly*. Mr. Flook, entering earnestly into the question, hung the corn over the kitchen stove, where it remained two weeks drying. At the request of Messrs.

Digitized by Google

Ordway and Day, I examined and again weighed the corn on the day it was shelled, Oct. 29th, and the result *proves* what your Committee expected it would—the corn was dry, hard, flinty, and fit to grind.

The shelled corn raised upon one rod with Stockbridge formula, weighed 36 3-4 lbs., (a shrinkage of 22 3-4 lbs.,) 105 bushels per acre.

The shelled corn raised on one rod with hen manure compost, weighed 36 lbs., (a shrinkage of 23 lbs.,) 102 6-7 bushels per acre, making Mr. Flook's *actual crop* nearly 104 bushels per acre, instead of 131 bushels, as tested by the standard of 72 lbs. per bushel. It will be seen that the shrinkage from the gross weight when harvested, to the net weight when merchantable, is nearly 40 per cent., and we hope our Trustees will hereafter make the standard 90 lbs. per bushel.

The Committee were unanimous that Mr. Flook's crop was well worthy of the first premium. Mr. J. J. H. Gregory's crop was viewed by Mr. Akerman, and the result [see his statement annexed] being so satisfactory, we award him a gratuity of eight dollars.

When we take into consideration the enormous amount of corn exported in 1876—50,910,532 bushels,—nearly seventy per cent. greater than the previous year,—and also the fact that New Hampshire last year raised 2,029,000 bushels of corn, and Massachusetts only 1,150,000,—would it not be well for the "Old Essex Society" to endeavor to increase this all-important crop, by offering *more* than one premium for corn?

We award to E. P. Robinson, of Hamilton, for his Rye Crop, the premium of $10. For particulars, see his statement annexed.

Committee—Horace F. Longfellow, Hanson Ordway, John Day, Joseph Akerman.

Digitized by Google

STATEMENT OF G. L. FLOOK.

The crop of 1875 and 1876 was grass; the nature of the soil was gravelly, low; broken up in the spring of 1877; ploughed to the depth of eight inches; spread on about ten dollars' worth of Stockbridge Manure and about ten dollars' worth composted of hen manure and barnyard. Cost of planting, harrowing, and ploughing, seven dollars; amount of seed, one peck of eight rowed yellow corn, worth twenty-five cents; cultivated twice and hoed three times. Cost of cultivation, ten dollars; cost of harvesting, eleven dollars and a quarter. Amount of fodder I estimate worth twenty dollars. Amount of crop, 104 bushels.

STATEMENT OF J. J. H. GREGORY.

Previous to 1875 the land was in grass, and had been for many years. In 1875 it was broken up, being at the time badly run out. The crop of that year was Drumhead Cabbages, the ground being well manured with glue waste and leached ashes broadcast, with ground bone and hen manure in the hills. The crop of 1876 was Potatoes, which received a liberal manuring with fish waste, glue waste, potash, and superphosphate, the two latter in the drills. It was ploughed both last fall and spring, about seven inches deep. Previous to the spring ploughing, eight cords, half of barn manure and half a compost of waste fish and soil, at the rate of one part of fish to three of soil, were spread broadcast. Four hundred and fifty pounds of muriate of potash were harrowed in, and seven hundred and fifty pounds of the pomace of the castor oil bean were scattered in the drills. The drills were made three and one-half feet apart, and the corn dropped a foot between the kernels. The entire cost of preparing the ground and planting was about $12.00. Cost of the manure: barn manure, $32.00; fish waste, $15.00; muriate of potash, $12.00; bean pomace, $7.00. The corn was planted May 15th, but owing to devastation from the crows, a considerable portion of it had to be replanted at various intervals up to

Digitized by Google

the middle of June, which, as every farmer knows, is unfavorable to the crop, the late planted not yielding as well, that first planted overgrowing and overshadowing it. The variety was a new kind, named the "Compton," originated by Mr. Compton of Pennsylvania, by planting the abnormal ears which sometimes grow in place of the spindle. The seed for the acre cost about $5.00, and the planting of it $2.00. The corn was cultivated four times, at a cost of $5.00, and hoed and weeded at an additional expense of $5.00. It required no thinning. Owing to great press of other work, it was not harvested until the close of October, having suffered considerably from the depredations of crows and rats. In September it was topped, and the stover secured in good condition. The cost of gathering and husking was $10.00. The yield of the acre was two hundred and two bushels of ears, of which only twelve were inferior in size and quality, the remainder making the handsomest lot of ears I ever saw grown on an acre of ground; they were remarkably large, many of them being twelve and fourteen rowed, and were almost uniformly filled out to the tips. Many of the stalks had three good sized ears on them. Some of the ears were glazed in seventy days from the date of planting. The stalks were quite tall, and suckered freely, making the stover of more than ordinary value. Large as was my crop, it was much below that for which Mr. Compton was awarded the Conrad Wilson prize, by a committee of intelligent gentlemen. An objection to the Compton Corn is the size of the cob, which is a partial offset to the size of the ear, and to its habit of filling out to the butt, its earliness and productiveness.

It will be seen that the cost of the acre of corn, charging, as customary, one-half the cost of the manure to the crop, was $69.00. At 87 cents a bushel for northern corn, the value of the crop would be $87.00. If to this $25 is added for the value of the stalks, which abounded in suckers, and were unusually tall, the value of the crop would be $112.

JAMES J. H. GREGORY.

Digitized by Google

[CERTIFICATE.]

Middleton, Nov., 1877.

I hereby certify that the 202 bushels of Compton Corn entered by Mr. Gregory, grew on one acre of land, as measured by me.

HENRY B. WINSLOW.

STATEMENT OF E. P. ROBINSON.

DR.

To Ploughing, Harrowing and Sowing 4 acres Rye,	$48 00
To 250 bushels Ashes, unleached,	44 50
To 12 bushels Rye,	12 00
To Reaping, &c.,	5 00
To Threshing, by hand,	12 00
To net proceeds, or profit,	46 93
	$168 43

CR.

By 80 1-2 bushels Rye,	$68 43
By 5 tons Rye Straw,	100 00
	$168 43

By actual measurement the field contained four acres, or so near that as to authorize it being so called. This land has not had any manuring for at least seven years, and was so demoralized that less than one ton of hay was cut on it in 1876. This last fact led the writer to break it up and sow rye. The statement shows a net profit of $46.93. This would be a handsome per cent. on investment, (and is,) but should be carried on more largely.

Hoping to hear from you soon, and in proper time, I am

Yours, E. P. ROBINSON.

Digitized by Google

ROOT CROPS.

The Committee went first to the "Cochichewick Farm," in North Andover, owned by Mr. J. D. W. French. Potatoes, Mangolds, and Ruta Bagas were the crops offered. There were no other entries for the same kind of vegetables. These crops were all good, though not a very extra yield. The potatoes were large, better to sell than to keep. The Committee award to Mr. French the premium of $10 for each of his entries.

The science which Mr. French has brought to bear upon the surroundings, and conditions under which he farms, has enabled him to unite the ornamental and practical, the artistic and needful, the landscape beauty of good clean cultivation with the solid satisfaction of good crops and handsome and productive cattle. The farm and the country seat are well joined together in "Cochichewick Farm."

Daniel Carlton, of North Andover, comes next on the list. Here we saw a very good crop of Onions, for which the Committee award him the Society's premium of $10.

The conditions under which Mr. Carlton farms are very different from the surroundings of Mr. French; and yet Mr. Carlton's agricultural science has enabled him to unite his farm with a genuine New England farmer's home, a home in which the sons seem to be content to remain and work with the father. If any readers of this report have not a clear and comprehensive idea of what a "farmer's home" means, let them get Dr. Loring's Portland speech and learn what it means.

The next visit was to the farm of Mr. Rufus Goodwin, Ayer's Village. Here we saw a good crop of Onions, but not as good as Mr. Carlton's.

Mr. Goodwin's farm is very different from either Mr. French's or Mr. Carlton's. It is a village farm of ten acres, but with agricultural and mechanical science, Mr. Goodwin is uniting and welding together,—machinist fashion,—all that needs to be united in farm, garden, and home.

Digitized by Google

Mr. H. A. Merrill, of North Beverly, entered Cabbages. By selecting the best one-half acre in a four acre lot, he showed the Committee a fair crop of cabbages for a dry season. With more rain at the ri ht time, and a good market, his crop might have been very profitable. for he has reduced the cost of growing to a very small sum. He had premium cabbages last year, and grew $161.50 worth with $17.25 worth of manure.

The conditions under which Mr. Merrill farms are well calculated to teach economy of production. Growing vegetables for the Boston market, on land rented by the year in North Beverly, makes economy of production a necessity, if one expects to add satisfactory net cash returns to the pleasure of growing cabbages and carting them to Boston.

The Committee give Mr. Merrill the credit of having done well under the circumstances; but they were not at liberty to give him the premium, because Mr. J. J. H. Gregory, of Marblehead, entered a much better crop, and to him the Committee award the premium of $10.

The conditions under which Mr. Gregory farms are very different from those under which most farmers work, and it is very fortunate for all purchasing seeds from him, that he has been able to bring to the conditions under which he works the practical skill which enables him to produce very superior parent seed stock, from which to grow his seeds. It is perhaps well that he is not compelled to study economy of production as closely as some of us, for half fed stock of any kind are not likely to be first class producers.

Mr. French, in his statement, has called attention to the manure value of Mangold tops. It is well for all growing mangolds to solve, to their own satisfaction, how best to utilize this value. My experience with them has led me to think that, when fed under the right conditions, instead of being a "very indifferent" food, they are, on the contrary, a very superior food for milch cows.

Digitized by Google

I infer, from German experiments, and tables given us by Prof. Atwater, of the Connecticut Experiment Station, that the tops of all the beet family are very rich in mineral, or ash ingredients, and also in nitrogen or albuminoids. Being rich in both of these makes them very valuable as manure; being rich in albuminoids makes them valuable as food. Green clover is good manure, it is also good food, and though the organic matter in beet leaves is much less than in clover,—7.7 in 100 lbs. of the leaves, to 20.3 in 100 lbs. of clover,—the ratio of albuminoid to carbo-hydrates is nearly the same,—1 to 2.37 in the leaves, and 1 to 2.33 in the clover. I think a pound of the organic matter that is in mangold tops will make more milk than a pound of organic matter in green clover, for, four years' experience in soiling for milk, has led me to think, that, other things being equal, the more water in the form of sap there is connected with the organic matter, the more milk I can get from a given amount of the organic matter. There is no water like sap water for making milk, and therein lies, as I think, the great value of root crops,—tops and bottoms. In feeding the tops, we lose but a small per cent. of their manure value—less than they charge at the bank to discount a note for the same time; I can collect two dividends from the plant food, which is the farmer's trading capital. In the mangold tops, before they are ready for plant food, if ploughed in, I can feed them in October, put out the manure and sow rye, feed the rye in the spring, use the manure to grow fodder corn, and feed that by the time the leaves ploughed in are decayed enough to become plant food. There are facts connected with the problem of collecting dividends from plant food that are not generally understood. When I grow mangolds, my plan is to begin to harvest early, so that I can have some time in which to use the tops. I top them in the field and while standing; the tops can be taken off much better than after they are pulled. Put the tops, as taken off, into a large basket, and from the

Digitized by Google

basket into a cart. After as many rows are topped as we want leaves for a day or two, then the roots are gathered; that clears the ground, so that the cart can get near for more leaves. As the tops must be taken from the roots, it is but little labor to get them to the barn, and into the farmer's chemical laboratory—the cow's stomach,—and extract the milk from them, thereby changing the refuse at once into good plant food.

Committee—Ansel W. Putnam, Chairman; Henry W. Foster, Willis P. Sargent, Andrew Mansfield, A. P. Fuller.

STATEMENTS OF J. D. W. FRENCH.

POTATOES.

The following is the account of my Potato crop, entered for premium:—

The land used for this crop, previous to 1875, had *never* been in cultivation, but was a piece of low meadow land, covered with wild grasses and bushes. In the summer of 1875 the whole meadow was drained with tile drain running into an open ditch, stoned at the sides, which extended the entire length of the meadow.

In the fall of that year the land was ploughed for the first time. In 1876 the crop was corn. Stable manure was used at the rate of six cords to the acre. The soil is of a peaty nature, mixed with sand. The land was not ploughed in 1876, but horse hoed. In the spring of 1877 it was cross ploughed, that is, ploughed in the opposite direction from the ploughing of 1875. The depth of furrow was eight inches. The planting took place May 4th. The drills were furrowed out three and one-half feet apart, and planted with *small* potatoes fifteen inches apart in the drills. The quantity of land entered is one-half acre. Finished digging and housing potatoes August 24th.

Digitized by Google

Dr.	
To seed, six bushels *small* Potatoes,	$ 3 00
To ploughing and harrowing, two days,	3 00
To planting and weeding, four days,	6 00
To manure, two and one-half cords,	20 00
To harvesting, two and one-half days	3 75
	$35 75

Cr.	
By 140 bushels saleable Potatoes at 60 cts.,	$84 00
" 20 " small " at 25 cts.,	5 00
	$89 00

Profit on 1-2 acre, $53 25.

In the above no account is made of the tops, or of the value of the manure for future crops.

Boussingault says, in his "Rural Economy," that, from experiments made, he found that the Potato tops from an acre of ground might be equal to six or seven hundred weight of that manure presumed to be dry. See also statement on Mangolds.

MANGOLDS.

I herewith present the account of my Mangold crop entered for premium:

This crop was grown on part of the same meadow as described in statement on Potato crop.

Variety, Long Red. Sowed seed May 12th by machine, in drills forty inches apart. The plants were thinned out to twelve or fifteen inches apart. Extent of land, 1-2 acre. Roots put in cellar October 20th.

During the month of September, the land suffered severely from drought, so that the crop is not as large as usual. Thirty-six tons per acre have been raised on my farm, whereas this year the crop is only twenty-six tons. The salt was broadcast, and the hen manure put in along the drills. The barn

Digitized by Google

manure was spread on the whole piece. It is my practice to leave the tops on the land to be ploughed in.

My experience agrees with that of Boussingault, that they should only be given to cattle in cases of necessity. He states that "it is generally much better to bury them in the ground immediately after the crop is gathered. If they be very indifferent food, they are, on the contrary, excellent manure, superior in quality even to the best farm dung;" also, that the leaves of the beet from an acre of ground, are equal to six or seven hundred weight of that manure in a state of dryness; but in another place he says that an acre produced 85 3-4 cwt. of green, and 9 3-4 of dry leaves. His average crop is only 10 1-2 tons, probably about half what it is in this country.

Composition of Dry Leaves:—Carbon, 38.1; Hydrogen, 5.1; Oxygen, 30.8; Azote, 4.5; Salts and Earths, 21.5; equaling 100.0.

Dr.	
To seed 1 1-2 lbs.,	$1 12
Ploughing and harrowing 2 1-4 days,	3 37
Ridging and sowing 1 1-2 days,	2 25
Weeding and thinning, 6 days,	9 00
Barn manure, 3 cords,	24 00
Hen manure, 3 bushels,	1 50
Salt, 2 bushels,	.50
Harvesting, 5 days,	7 50
	$49 24
Balance to credit,	59 51
	$108 75
Cr.	
By 435 bushels Mangolds, at 25 cents per bushel, or 13 tons,	$108 75

Digitized by Google

RUTA BAGAS.

I present the following statement of Ruta Baga crop entered for premium :—

This crop was grown, as well as the Mangolds, on part of same meadow as the Potato crop entered for premium. Sowed seed June 16th; this proved to have been much too early, as the crop went strongly to tops. Drills forty inches apart, and plants thinned out to twelve or fifteen inches apart. Harvested Oct. 27th. The quantity of land occupied by this crop is 1-2 acre.

Dr.	
To seed, 1-2 lb.,	$ 25
Ploughing and harrowing, 2 1-4 days,	3 37
Ridging and sowing, 1 1-2 days,	2 25
Weeding, 1 3-4 days,	2 62
Barn Manure, 3 cords,	24 00
Stockbridge Fertilizer, 1 bag,	6 00
Harvesting 5 days,	7 50
	$45 99
Balance to credit,	32 01
	$78 00
Cr.	
By 260 bushels Ruta Bagas, at 30 cts., or 7.8 tons,	$78 00

SEEDLING POTATOES.

Your Committee on Seedling Potatoes would report that on invitation of Mr. R. Goodwin, of Haverhill, (Ayer's Village,) it visited his farm, and heard his statements under oath regarding a seedling potato offered by him for premium. The Committee, all of whom were present, examined the seedling offered and other seedlings, and compared them in connection with the Early Rose, especially the seedling offered for pre-

Digitized by Google

mium, with which it is very nearly allied in looks and taste. Your Committee also had the pleasure of tasting this seedling boiled, and of comparing it with other potatoes cooked in the same manner. Your Committee saw this potato taken from the hills in several localities, and was much pleased with the enthusiasm of Mr. Goodwin in this department of agriculture, and also in the apparent honesty shown in presenting his different statements.

Mr. Goodwin makes this statement in writing to your Committee, under date of Sept. 17, 1877: "In 1873 I planted potato seed from the ball of the Orino potato planted beside the Early Rose. Near them were the Peerless, Davis Seedling, Riley Red, and State of Maine. I got from the seed twelve or fifteen different seedling potatoes. From the one I offer for premium I raised six potatoes in 1873. I planted the six potatoes in 1874, and the yield was one-half bushel. In 1875 raised eight bushels from one-half bushel, on ground manured with common stable manure, three cords on acre, cultivated in. In 1876 planted about six bushels, and raised from them ninety-five bushels, manuring as the previous year. This year I planted seventeen pounds of the seedling, cut in one-eye pieces, and sprouted them in boxes, planted them on May 5th, and the yield was six bushels, with but few small potatoes. Seventeen pounds of the Early Rose, of the same size, treated the same way, yielded four bushels of smaller potatoes and a larger amount of small ones." He says the yield of some planted by him and not sprouted was heavier.

Mr. Joseph How, under date of Sept. 13, 1877, writes that, "In the spring of 1876 Mr. Rufus Goodwin gave me two of his seedling potatoes, which I planted, and gave him the result. Last spring I planted the proceeds of last year's crop by the side of the Early Rose. The amount of the crop was a very little in favor of the Early Rose. I was not quite satisfied with the experiment. The most convenient place I had to plant them was in the garden, where it was partially shaded, and I think the Early Rose had a little the best

Digitized by Google

chance. I think, therefore, that my experiment the present year should have but little or no influence in the case. As to the quality of the potatoes, we have cooked but few of them, and thus far find but little or no difference between them and the Early Rose."

Mr. T. J. Goodrich states in writing that he planted this year "a few of Mr. Goodwin's potatoes. As to earliness and yield I think they are equal to the Early Rose, and better in quality."

Mr. Chandler, of Andover, under date of Sept. 17, 1877, writes that, "In 1876 I raised ten pounds from one potato given me by Mr. Goodwin. This year planted four pounds in the field, had 125 pounds of good market potatoes, not weighing little ones. Planted four pounds of Early Rose by side of them, did not cover much more than half the ground that the others did; had 84 pounds; could not say in regard to their being earlier than the Early Rose, but they cook as well or better than the Early Rose. They are very smooth and fine, but look so much like the Early Rose that it would be hard to pick them out if put side by side."

George Cogswell, Chairman of your Committee, would state that on the evening of July 20th last, Mr. Goodwin called on him at his Riverside Farm, where he was stopping for the summer, and gave him, perhaps a peck, of his seedling potatoes. He stated that these potatoes were planted on the 16th of May, 1877, being two months and four days. These potatoes were fine looking, cooked well, and were of excellent quality,—as good or better than the Early Rose in its best days.

In conclusion your Committee would state that they regard the seedling potato, presented by Mr. Goodwin, of even size, smooth and fine looking, and good in cooking qualities, and according to the testimony presented, earlier than the Early Rose, which it much resembles. In fact the likeness was so great that the Committee hesitated in recommending a premium, and would advise that the decision be referred to next

Digitized by Google

year, and that in the meantime Mr. Goodwin place in the hands of two of your Committee, such as he might be inclined to select, to be by them tested, some of these seedling potatoes, for the purpose of reporting thereon; and, further, your Committee would suggest that in making up the Committee for another year, a majority of the Committee of the present year be placed thereon.

All of which is respectfully submitted.

GEO. COGSWELL, *Chairman.*

THE EXHIBIT OF MANUFACTURES AT THE FAIR.

Among the varied interests exhibited at the hall during the Essex Agricultural Society's Fair, the one great attraction was the manufactures of Lawrence and vicinity. The marked improvement in the quality, finish, texture, and variety of products, was quite evident since the last exhibition some twelve years ago, and places Lawrence in the front ranks for producing fabrics not excelled as to quality and superb finish. The varied products will bear me in the assertion that these fabrics are what the people require, and fully equal to any foreign production suitable for lady or gentleman to wear.

The Arlington Mills is an establishment devoted almost entirely to the production of ladies' wear; the only exception is the manufacture of Lasting for Shoes. Their exhibit consisted of ten qualities of Alpaca; three qualities of Twilled Brocade; one quality of Matallasse; three qualities of Twilled Bunting for Dresses; one quality of Lasting for Shoes. The product of this corporation yearly is $225,000. Annual product, yards, 5,000,000.

The Atlantic Cotton Mills, as its name implies, manufactures first-class plain cotton goods in different grades, which are found in all our home markets; also shipped largely to foreign countries.

Digitized by Google

Everett Mills product consisted of Cottonades, Denims, Cheviot Shirtings, and Dress Goods. Samples of all were placed on exhibition, all of which were much admired by the Committee, and the general expression was that they were suitable for the use of the most fastidious.

Pacific Mills exhibited an assortment of their every day production, of Printed and Dyed Cottons and Worsted Goods, comprising Worsted Goods, Cashmeres, Merinos, Alpacas, Poplin Lustres, Serges, Printed and Dyed Cottons, Percales, Corded Jaconets, Organdies, Lawns, Cretons, Prints, &c.

Pacific Mills goods are too well known to call for a description. There is not a dry goods store in the land where Pacific Mills productions are not known. They are staples such as are required by the people. Pacific Mills are known in Europe by their productions. There is scarcely a maker of textile fabrics in England, France, or Germany, that caters for the United States market, that does not know and respect the productions of these mills. There is no establishment in Europe devoted to the manufacture of textile fabrics so extensive as the Pacific Mills of Lawrence. In this connection it is pleasant to know that the enterprise has been a financial success from the beginning. The Company leave no effort untried to elevate their employes, morally, physically, and intellectually.

Lawrence Woollen Mill exhibited some very fine Shawls, Cloths, Cassimeres, Coatings, Fancy Cloakings, Suitings, Repellants, and Opera Flannels. These cloths are made from fine wool, and are finely finished fabrics.

Pemberton Company made a very fine display of Cotton and Woollen Goods in variety. This mill was erected upon the same spot where one fell in January, 1860, and has, since starting, run to its full capacity upon a large variety of products in both wool and cotton. Through the excellent management of David Nevins, Esq., its President, who is also at the head of the selling house of Nevins & Co., who sell its products in all markets, the mill has maintained a high repu-

Digitized by Google

tation for the style and quality of the great variety of fabrics it produces. Through good times and bad times, buoyancy or depression of trade, it has been kept constantly in operation, giving employment to a large number of operatives, and a living to those dependent upon them.

In its display at our exhibition, there were fine All-Wool Goods for ladies' wear, in all shades of color, Bourette and Matallasse Goods of both Wool and Cotton, for ladies' dresses, stout, closely-woven Cottonades for men's wear, Shaker Flannels, Shirting Flannels, Cotton Flannels, with many other varieties skilfully and tastefully manufactured.

The Washington Mills made an extensive exhibit of Ladies' and Gentlemen's wear, which was admired alike by Committee and the public, all uniting that quality and finish fully equalling any foreign production. The Cloakings and Suitings were the finest of fabrics. The variety exhibited consisted of Shandons in fancy suitings of fine wool; Trosachs and Inverness fancy suitings from American and Canadian wool, in black and blue and fancy colors; Vienna Coatings, Black Worsted Cloth for Sontags, with worsted face and woollen back; Gilderslieve Superfine Worsted in black and numerous fancy colors; Matallasse Cloakings for ladies' wear, made from worsted for face, and mohair and wool backs, in black, blue, brown and green shades of color; Chantilly Superfine Cloaking for ladies' wear, in fancy weave and fancy colors, superfine worsted on the face, and fine wool backs; Blue Flannels and fine cloths from XX American and Australian wool; Extra Bay State Shawls, from Super and XX wools in various styles and colors; Eider Shawls, in imitation of Camel's Hair Shawls; also Serge in five shades; Extra Cashmere in seven shades; Winter Cashmere in seven shades; Poplin in four shades; Cretons in five shades; Alpaca, 22 inch and 6-4, ten shades; Wool-Dyed Brilliantines in seven shades; Wool-Dyed Serge in eight shades; Fine Serge, six shades; Washington Fancies in six styles; Costume Cloth in seven shades; Polonaise Cloth, two styles; Fabrique Brou-

Digitized by Google

sette in seven shades, two different styles; Twilled Biege, five shades; Biege Fancies in six shades, three styles; Diagonals, four shades, three different styles. Total, one hundred and thirty pieces, in one hundred and four shades and in thirty different styles of Dress Goods.

Smith and Dove Manufacturing Co., of Andover, is one of the successful enterprises of this vicinity, whose products are known at least over the entire country. Their exhibit consisted of Flax, Undressed Flax, Dressed Flax Sliver, Robing, Yarns and Carpet Yarns, Shoe Thread and Machine Thread, Engine Hose Twine; Warp and Filling for weaving Linen; Fire Hose; and Bookbinders' Twine. To witness the different stages of manufacture, from the raw to the marketable product, was very interesting to all.

B. S. Hale & Sons' manufactory, of Lawrence, is a new industry in our city, and they are producing in their line some superior goods in workmanship and finish. The goods exhibited were Laid Linen Fish Lines, braided of linen and silk; Laid Waterproof Lines; Braided do.; Bleached Chalk Lines; Silk and Cotton Covered Wire, Copper and Iron, for electrical purposes; Silk and Worsted Covered Flexible Roll Cord; and Patent Asphalt Covered Copper and Iron Wire, for Waterproof and Insulation.

Methuen Company. The display of Jute and Cotton Goods made by this Company, was one of exceeding interest, especially of the Jute goods. The manufacture of Jute goods into various fabrics, is a comparatively new one to this country. Heretofore it has been largely confined to Scotland, in Great Britain, where the fibre is admitted free of duty, and it enters into a large variety of the cloths manufactured there.

The fibre is grown in the swamps of India, and being planted, gathered, and put up for market, by the very cheap labor of natives, is not so costly as wool or cotton. The manufacture of this fibre into cloth was introduced into Methuen at the Methuen Company's Mills several years ago, by David Nevins, Esq., and through his indomitable will, perse-

Digitized by Google

verance, and energy, it has been successfully wrought into many kinds of useful fabrics. To make this Jute manufacture thoroughly successful in this country, it only needs that we should have the same advantage as Great Britain, namely, that the raw Jute should be brought into this country free of duty; it now has to pay a large one. Samples of the fabrics made at Methuen were shown at our fair. Draperies for halls and parlors, Carpets in bright or subdued shades of color, Canvas for U. S. Mail Bags, Grain Bags, Cotton Bagging, together with many other fabrics of Jute, made one of the most interesting features of the display of manufactures, and was doubtless a new revelation to most who visited the hall during the exhibition.

This mill also displayed excellent Cotton Goods,—Cotton Flannels, Tickings, Awning Stripes, and Skirtings,—with other kinds, all equal to those manufactured in this or any other country.

WM. D. LAMB, *for Committee.*

Lawrence, Oct. 27th, 1877.

TREADWELL FARM.

The Committee on the Treadwell Farm respectfully submit the following report:—

The buildings received a second coat of paint in April last, and now have a very neat and tidy appearance. They will not need repairs to any considerable extent for many years to come. Further improvements have been made by Mr. Philbrook in clearing bushes from the highly ornamental pine grove, and along the borders of a brook within the boundaries of the farm, and also from a small pond that was formerly filled with unsightly brush. This, with the improved condition of the farm buildings, and the clean culture bestowed

Digitized by Google

upon the farm, give it a very neat and thrifty appearance; excelled in that particular by very few farms in the County.

It may be interesting to those who have followed the three years' experiment that closed last year, to know that lot No. 1, which was fertilized three years ago with Russell Coe's Superphosphate, showed little or no effect from it this year; the growth of grass being about the same as on lot No. 4, where no fertilizer was used. Crop not worth mention. Lot No. 2, that was fertilized with Brighton Abattoir Fertilizer, compared favorably with lot No. 3, which had an application of barn-yard manure.

The growth of grass was fair, showing unmistakably the effects of the application made three years ago.

This year 67 1-4 cords of barn-yard manure, and $115.50 worth of Stockbridge Fertilizer have been applied to the farm.

The products of the farm were: 20 barrels of apples, 9 bushels cranberries, 225 bushels of potatoes, 415 bushels of mangolds, 250 bushels of carrots, 265 bushels of turnips, 20 bushels of green peas, 3 1-2 bushels of beans, 20 bushels of onions, 850 bushels of corn in the ear, 44,084 cucumbers, 4560 cabbages, three cart loads of pumpkins, 12 tons of English hay, 20 tons of meadow hay, 5 tons Hungarian hay.

An experiment with Stockbridge Fertilizer was tried upon five acres of very thin poor pine plainland, that had not been manured for very many years, and had not virtue enough to support a sod of any kind before ploughing, which was done in the autumn of 1865, and sown with winter rye. It produced but a very small growth of rye last year, showing how very poor the land was. Stockbridge's formula for corn fertilizer sufficient to produce fifty bushels of corn per acre, was applied to the five acres, and to two of the five one bag per acre in addition was used in the hill, which seemed to increase the crop fully one third. The product of the whole five acres was 420 bushels of ears of corn.

BENJAMIN P. WARE, *for the Committee.*

Digitized by Google

NEW WINTER APPLES.

There has been offered for several years the liberal premium of one hundred dollars for a new kind of winter apples equal to the Baldwin or Roxbury Russet. We suppose it means for late keeping as well as for quality. We well remember the discussion that took place among the trustees about offering this large premium. It was said by some of the oldest and most experienced members, that, in their opinion, apple trees would in time deteriorate and become less productive, and the fruit inferior in quality, and the importance of new kinds of late keeping apples was particularly alluded to. If it is a fact that apples deteriorate, as above stated, it is wise to look for new kinds. Notwithstanding the large premium that has been offered, we believe there has been no application for it.

We well remember the old orchards and the great quantity of apples they produced in our early days, nearly all of which were made into cider, as there was but little or no market for them within a reasonable distance.

There were several kinds that originated in our neighborhood, that were of superior quality which would not have dishonored the tables at our County Fair. The origin of those trees, some of which are yet standing, would, we think, date back about 150 years. The Methuen Pippin, the Bean apple, the Orange apple, the Red apple, and other kinds, are all now in existence in our locality, but have so deteriorated that they are now considered of but little value.

The Roxbury Russet, we suppose from the name, originated in Roxbury; as to the time, we have no knowledge. Among our earliest recollections, were the Russet trees on our father's farm, one of which was sufficiently large to bear several barrels of apples. And in imagination we can see the tree loaded with large fair fruit, yellowed with golden russet tinged with red from the rays of the sun; and when kept till spring, they tasted quite as well as they looked on the tree.

Digitized by Google

There was the Rhode Island Greening, which came, as we have been informed, from Rhode Island, which produced, like the Russet, a very beautiful fruit, but now, like the Russet, has greatly deteriorated. There was but little encouragement at this early day to cultivate apples for market, as Salem was the only market, and the manner of conveyance was such that it was not easy to convey them there. The most of the marketing was done at this time on horseback. We well remember seeing the horses loaded with sacks, containing the products of the farm, such as butter, cheese, eggs, poultry, and other light articles, and sometimes grain was carried on horseback. The good women also sometimes went, carrying the products of the dairy, the spinning wheel and loom. These companies would naturally remind one of the children of Israel carrying corn in sacks out of Egypt.

It will be seen at once that apples would be an inconvenient article to carry on horseback, and as there were no wagons, our father adopted the following plan for carrying his apples to market. He took the top of his chaise from the carriage, then placed boards on the axle and crossbars, on which he placed his bags of apples and other things he carried to market.

As to the price of apples at this early day, we recollect hearing our father say that he got a barrel of flour for four bushels of apples. He sold his apples for two dollars per bushel, and paid eight dollars per barrel for the flour.

A man who is our senior in years, related the following incident: He says the first wagon he recollects ever seeing, was a new one hired by his mother before it was painted, to go to Salem to market, and he went for the first time with her, she having been previously accustomed to go to market on horseback. Among other things carried to market at this time were some checkered handkerchiefs of her own manufacture, for the soldiers in the service of the war of 1812.

Digitized by Google

From the above, and our own recollection, wagons were not much used until about this time, 1812 or 1813.

The Sawyer apple originated in Methuen, on the bank of the Merrimack, and on the farm of the late Aaron Sawyer, which gave name to the fruit, the origin of which will date back probably as far as those above named. There was an important and protracted trial at which we were present, between Mr. Sawyer and the Essex Company, about the value of this tree, which was then in a decayed state, and would have soon been likely to die a natural death. The Essex Company, by building their dam at Lawrence, flowed the land where the tree stood, and large damage was claimed for its value. Many witnesses were called and much time was consumed to prove the large amount of valuable apples it had previously produced, and consequently the great value of the tree. We have no doubt, from the amount of the award of the referees, that it had considerable influence in their decision. The tree we suppose was unusually large, a prolific bearer, and of superior autumn fruit. It now appears, from those that were grafted from it within our knowledge, that the fruit is depreciating like other varieties of about the same age.

The Runnels apple, or iron apple, as they are sometimes called, were formerly prolific bearers, and were considered profitable apples to cultivate. Their value consisted in their late keeping and good cooking qualities, but not for the table.

We remember many years ago being on the farm of the late John Barker, of North Andover, who was then known to be famous for his late-keeping winter apples, and his care of keeping and marketing them.

A tree was pointed out to us of the Runnels variety, from which it was said that he got fifty dollars for a one-horse load carried to Boston. He carried twenty-five bushels, and sold them for two dollars per bushel. Whether the twenty-five bushels were all the tree produced, we were not informed.

Digitized by Google

The Currier apple originated in our neighborhood, probably within the present century, and on the farm of a Mr. Currier, which gave name to the apple. They are juicy, of good flavor; in form like the Porter apple, but not quite as large; a little striped with red, and will keep longer than the Baldwin, and the tree is an uncommonly great bearer.

We were informed by Mr. Gorden, the present owner, that he picked from the original tree in one year, about twelve years ago, seventeen barrels, which he sold in the winter or spring for $5.50 per barrel at the cellar, amounting to the handsome sum of $93.50, not including the apples that dropped from the tree. A few years previous to this time there was said to be gathered from the tree 28 barrels at one time, not including those that dropped from the tree.

As to the price for which they were sold, we were not informed. They have been grafted to some extent in our vicinity, and a neighbor who had a large orchard of mostly Baldwins, said to us that if his orchard had been Currier apples instead of Baldwin, it would have given a much larger income in the last few years than it has. The reason he assigned, was they have often produced a good crop, when the Baldwins have failed, and as they keep better than the Baldwins they usually bear about the same price.

The President apple originated in Pelham, N. H., within the present century,—an excellent fall apple and good bearer.

The Hubbardston Nonsuch,—we know not when or where they originated,—is a prolific bearer, of superior quality, suitable for use in late fall and early winter.

As to the origin of the Baldwin Apple, we have the following information from the Hon. Josiah Newhall of Lynnfield: The Baldwin apple, he says, was found growing wild in the town of Wilmington, on the farm of a Mr. Butters, more than a hundred years ago. They were known as the Butters apple, also known as the Woodpecker apple, the woodpecker having perforated the bark. Being disseminated by Col. Baldwin, they were called the Baldwin apple. For many

Digitized by Google

years the Baldwin apple we think has been more extensively cultivated in this County than any other winter apple, if not more than all other winter apples put together, and its good qualities are such and so well known, that no recommendation is necessary.

The best apples are not always the most profitable. We have many times had apples highly recommended, have grafted them, and when they came into bearing, have grafted them over again in consequence of their being unproductive and not so profitable as other varieties.

Some varieties produce better fruit in some localities than in others. Better Roxbury Russets are produced near the seashore than in the north part of the County, although they are in our opinion far inferior to what they were sixty or seventy years ago. The Rhode Island Greening has greatly deteriorated with us, but is said to do well in some other places. The same may be said of the Hunt Russet.

The Northern Spy was said to be a late-keeping winter apple. It is a good apple, but with us not profitable to cultivate. On some trees they rot on the tree, on other trees they are of inferior quality.

We again quote from Gen. Newhall's letter: He says the English Permain was brought to this country by the early settlers. In his early life he set out several trees of that variety, which produced fruit for a few years, then the fruit began to decline and become worthless. He also mentions the Russet Permain,—Codlin—Catshead—Redstreak &c., which were popular apples one hundred years ago, but are now worthless.

He further says he believes the apple tree is no exception to the law of nature in regard to every living thing which has its youth, maturity, and decline. From our own experience and observation, we fully agree with our venerable friend, and we think the opinion he has formed from his long experience should have weight. If it is a fact that apples

Digitized by Google

deteriorate in quantity and quality, as we think they do, then it will be a great blessing to posterity if new varieties can be procured of superior quality, particularly of late keeping winter apples, as we think we are most deficient in that class of fruit. The apple crop is of immense value, not only as a luxury, but as a necessary healthful food, and the fruit continues fresh nearly the whole year. If a new variety of apples can be obtained like the Roxbury Russet of seventy years ago, the fruit large and fair, rich and juicy, a prolific bearer, which would come into the market after the Baldwin in late spring and early summer, they would be of great value; and also a variety to take the place of the Baldwin, should they decline, as other varieties have done.

Several years ago we sowed a small nursery nearly all from the seed of the Baldwin apple. Being desirous, if possible, of procuring a new and valuable variety of fruit, we selected about one hundred of the most thrifty, stocky, broad-leafed trees, the most of which were removed to the field for an orchard, the others remained in the nursery, all to remain ungrafted until they bore fruit. In due time they all produced fruit. What was the result? There was not a Baldwin, nor any one like a Baldwin, but all were greatly inferior to the various varieties that we now have. From the above experiment, and as nearly all the young trees that are transplanted are budded or grafted before bearing, how can we procure new varieties of superior fruit? From the aforesaid history of the Baldwin apples, and the knowledge that we have of their being disseminated over the community, we think they must have remained in obscurity for many years, with their great value concealed from public view.

Is it not possible that there may be a tree in some retired place equal to the Baldwin, or to what the Roxbury Russet formerly was, which a large premium would bring to public notice? Or may it not be possible that a superior quality of late keeping winter apples may be found in our markets,

Digitized by Google

which a large premium would lead some one to trace to their origin, and, if worthy, procure grafts therefrom?

There are other enemies of the apple to contend with, which we think are worse than those above named. We mean the insects in the tree and in the apple. They are not in some respects unlike some of the human species. They work in the dark, and cannot be effectually met. The canker worm and caterpillar can with care and labor be destroyed. But what can we do with the borer? One says, dig them out; another says, we wash the trees and destroy their eggs. This may be done to some extent in small orchards of young trees, but to destroy them in large orchards of large trees is much easier said than done. We believe the borer is doing much more damage in our orchards than is generally supposed. They not only perforate the body of the tree, but the branches also, which causes premature decay.

There are now many difficulties to contend with that did not formerly exist. The canker worm and caterpillar existed then as now. The canker worm ravaged the orchards in the latter part of the last century, and were killed by a late frost, and the apples were also killed at the same time; and it was said that the loss of the apples was not considered a calamity, as the destruction of the worms more than balanced the loss of the apples. They appeared again in the early part of the present century. Many remedies were applied for their destruction, but nothing proved effectual, except tarring the trees. We well remember assisting in tarring our father's trees. The custom then was to mix blubber with the tar, heat it, and apply it warm every day late in the afternoon, which proved effectual. We think if ink were applied every day, as we then applied tar, it would be more effectual, as we have seen the insects passing over the ink the second evening without trouble.

We think the destruction of birds has had much to do with the increase of insects, as many kinds of birds live mostly on them.

Digitized by Google

How to prevent the depredation of the apple worm is a difficult subject to determine. Sometimes they are very injurious to the fruit, other seasons we get a good crop, nearly perfect. The cause of the change is hard for us to understand.

Atmospheric influences sometimes operate on the crop. The year 1874, it will be recollected, was an apple year, particularly for the Baldwin. The crop was generally large, and the price of apples low. In our locality there was a large blossom, which looked healthy and strong. When in full bloom, a blight came over them which gave the blossom and foliage an unhealthy appearance; many of the leaves curled up and dropped off, and many of the trees did not recover from the shock during the season. There was a small crop of apples of very inferior quality. Some orchards not far distant had a full crop of good fruit. In 1876 some of the orchards that failed two years before produced a full crop of nearly perfect fruit, with few wormy apples.

The present year there is almost a total failure. We are aware that a great crop of Baldwins could not be reasonably expected. There were, however, some orchards that blossomed tolerably well. What was the cause of the failure? It was not the canker worm nor caterpillar, for in many of our orchards there are none.

It was said by one of old, "Except the Lord build the house, they labor in vain that build it; except the Lord keep the city, the watchman waketh but in vain." Although we may cultivate our orchards well and protect them as well as possible against insects, yet without the smile of Him who rules the elements, our crops may fail.

Now in closing, we would recommend to those who have good orchards to cultivate and protect them as well as possible against insects, and we trust in most cases they will, with the blessing of a kind Providence, be rewarded.

JOSEPH HOW, *Chairman.*

Digitized by Google

ESSAYS AND REPORTS.

The Committee on the award of premiums for Essays and Reports find the same difficulty in making a decision that so often besets the other Committees called upon to pass judgment in cases where there does not seem to be much to choose. Only two essays were offered this year,—one by Ansel W. Putnam, of Danvers, upon "The Comparative Value of Crops as Food for Cattle;" and the other by James J. H. Gregory, of Marblehead, upon "The Angle Worm." As regards general merit, there may not have been much to choose between these, but that of Mr. Putnam,—which seemed to be more of a statement of experiments than what is understood by a formal essay,—appeared to be of the most practical turn, and the Committee therefore gave it the preference, without assigning it to the rank of such essays as they understand to be contemplated in the award of a first premium. Mr. Gregory's essay is interesting as a newspaper article or as a paper to be read before a natural history society. It may also be useful as tending to awaken the farmer's attention to the consoling probability that worms and insects may have a legitimate use in the economy of nature, and that this side of the question may be worth a more careful hearing than farmers usually give to it. Beyond this, the utility of the treatise, as a help to farming, was not clear to the Committee. No first premium was awarded; but the second, of $10, was given to Ansel W. Putnam, for his essay on crops as food, and the third, $8, to J. J. H. Gregory, for his essay on the angle-worm.

There was not a great deal to choose between those reports that appeared most worthy to come within the range of a premium. A report of intrinsic value, taken as a whole, would not, of necessity, be entitled to a premium, especially where the main value resides in the different statements of the farmers who contribute to it, and where these statements have not been specially utilized, by the writer or compiler of the report, with some new and fresh thought or conspicuous-

Digitized by Google

ly useful deduction throwing new light or valuable suggestion upon the subject in hand. Very likely this Committee may not have made the most judicious discrimination; but they finally decided upon the following awards: First premium, $10, to Jos. S. Howe, Town Teams; second, of $8, on the deterioration of the apple, to Joseph How; third, of $6, to T. C. Thurlow, on peaches, grapes, and assorted fruit.

Committee—N. A. Horton, Salem; D. E. Safford, Hamilton, Hamilton; Charles P. Preston, Danvers.

ESSAY ON THE COMPARATIVE VALUE OF CROPS AS FOOD FOR CATTLE.

BY ANSEL W. PUTNAM, OF DANVERS.

The feeding value of crops depends upon the conditions under which they are fed, as well as upon the character of the crops. There may be conditions under which a ton of meadow hay, worth in market $15, has a higher feeding value than a ton of upland hay, worth in market $25.

Fodder crops are now classified according to their ratio of albuminoids to carbo-hydrates. Animals to be fed are divided into two classes,—those at work and those at rest. Animals that are being fatted, or that are giving milk, are classed as work animals. The fodder tables, published by Professor Atwater, of the Connecticut Experiment Station, which are founded upon German experiments, show that it is not good economy to feed animals at rest with food rich in albuminoids; such food should be saved for the work animals.

The results of a winter's experience with these tables may interest some members of the Society. The summer of 1876 was very hot and dry; the hay crop and crops for soiling were short, and when winter came there was very little in the barn. Whether to sell stock or buy food was the question to be answered. After a careful study of the tables, and of the

Digitized by Google

market price of the different kinds of fodder, it was decided to buy food. A comparison of the tables with the price list showed that carbo-hydrates would be furnished at much lower rates in bog-meadow and salt-marsh hay than in good upland hay, and that albuminoids were lowest in shorts and cotton seed meal. A car load of shorts was bought at $16 per ton, and four tons of cotton seed meal at $26 per ton. Meadow hay was bought at $8 per ton, in stack on the meadow; some fine salt hay at $12; some early cut black grass at $16. For two months our milch cows were fed a mixture of bog-meadow, salt hay, and black grass, at an average cost of $12 per ton, and our dry cows a mixture of bog-meadow and salt hay, at an average cost of $10 per ton. Cows that were giving from 15 to 18 quarts of milk a day, were fed 8 lbs. of shorts, 6 lbs. of corn meal, and 4 lbs. of cotton seed meal each per day. Cows that were giving less milk, had a smaller allowance of grain. The dry cows had no grain or roots with their $10 hay. I never have had cows give more milk than they gave on that $12 hay, and the dry cows kept in good condition; our horses were fed the same hay, and did well on it. Between two and three months there was no upland hay in the barn. Towards spring meadow hay and good salt hay were scarce; the roads were bad, and some baled hay was bought; it was not first quality, was over-ripe, and it did no better than the other mixture, though it cost more. Late in the spring I was in a neighbor's barn; he had some river meadow hay that he asked $15 a ton for, and some early cut upland hay that he asked $25 for. He said, "the meadow hay would do for dry stock, but there was no milk in it; but the upland hay would make milk." I told him I would take a small load of the meadow hay. It weighed 1500 lbs.; cost $11.25. I fed it from the wagon, and fed no other hay while it lasted, which was just one week. All the hay sixteen cows and three horses had for one week was that 1500 lbs. of meadow hay, and they had all they wanted of that kind of hay. They produced $36 worth of milk from that $11.25

Digitized by Google

worth of hay, and the grain that was put with it. There were three or four dry cows in the barn at that time, but the cows that were giving milk gave enough to pay for all the hay and grain that was eaten for the week by all the stock,—horses and hens included.

The merit of meadow hay lies in its bulky character, and in what may be called its stand-by capacity. A daily ration of 20 lbs. of meadow hay, will, I think, make larger paunches and keep fuller stomachs, than 30 lbs. of early cut upland hay; this is why it is valuable to feed with large quantities of grain, and to animals at rest it does not take as much to keep them full.

Why is it that dry cows and young stock, classed as animals at rest, are often so poor in the spring, when fed on salt marsh and meadow hay? It is because, though classed with animals at rest, they have no opportunity to rest; an animal cannot rest unless it is comfortable. On one of the coldest mornings of last winter, I went to a neighboring town for hay. At the barn where I loaded I saw cattle eating the same kind of hay that I was after; they were very poor, and looked as though they were growing poorer. Why? The barn was very open and cold—nearly as cold as out doors,—the hips and sides of the cattle were covered with frozen manure; they were curled up and shivering with the cold. It made my teeth chatter to look at them; and when I asked for some water for my horses, they told me that their stock drank out of a hole back of the barn, but horses not used to it would not drink it, they would bring me some from the house. It is not strange the stock was poor, but it is strange that they were alive. Now look at the conditions under which I fed the same kind of hay. The same morning, with the thermometer below zero out of doors, the one hanging behind our cows stood at forty degrees above zero; the cows were clean, and they had clean and dry beds to lie on; they had an opportunity three times a day to drink as much good well water as they wanted,—temperature of the water about forty-six

Digitized by Google

degrees,—and they had the privilege of drinking in the barn, where it was warm. The cows were comfortable, *they were at rest*, and under these conditions the $10 hay kept them in fair condition, at a cost of ten cents per day.

Last year the writer advised those accustomed to feeding salt and meadow hay with the result of poor stock in the spring, to buy cotton seed meal, to help utilize the carbo-hydrates in the poor hay. But after another year's experience and observation, my first advice to all such is, keep your stock warm, and give them all the good water that they need, and see if the quality of your hay is not good enough to keep animals that are comfortable, *and at rest*, in fair condition.

A knowledge of the comparative value of clear corn meal to cob meal, and also of the difference in feeding value of our round home grown corn and the flat Southern and Western corn, is very important at this time, to help farmers settle the question whether it is best to grow corn. German experiments show that 71 per cent. of clear corn meal is digestible, and that 52 per cent. of corn cobs is digestible matter. If we allow 74 lbs. of ears to give 56 lbs. of clear corn, 100 lbs. of ears will give 75.6 lbs. of corn, 24.4 lbs. of cobs; 53.6 lbs. of the corn, and 12.6 lbs. of the cobs are digestible, making 66.2 lbs. of digestible matter in cob meal, to 71 lbs. in clear meal, or about as 13 to 14. It is well to bear in mind that most of the digestible part of corn cobs is carbo-hydrates, and that to get the full value of cob meal it needs to be fed with other food rich in albuminoids.

Many are ready to admit that 100 lbs. of cob meal, made from round corn, is worth as much to feed as 100 lbs. of clear meal made from flat corn. Some, after changing from one to the other, back and forth for several times, claim that the same quantity by measure of cob meal is worth as much as the clear meal bought at our mills. There are 64 qts. in 100 lbs. of clear meal, and 86 qts. in 100 lbs. of cob meal. If a quart of our Northern cob meal has the same feeding value that a quart of clear Western meal has, then at the present

Digitized by Google

time 100 lbs. of cob meal are worth $1.80. My experience has led me to put the value of 100 lbs. of ears in the corn crib, when dry enough to grind, at the price of meal per bag at the mills. It costs us 20 cents per 100 lbs. to get our cob meal ground. I think 100 lbs. of it worth, for making milk, 20 cents more than a bag of the average meal we get at the mills.

The value of the cobs, and the difference in quality between the round and flat corn, are important items in making up statements of the cost and value of the corn crops grown in our county, and yet these items have generally been overlooked. Take for example the statement of James P. King for this year. He reports 7650 lbs. of ears, allows 85 lbs. of ears for a bushel, and calls a bushel worth 70 cents, 90 bushels $63.00. If I had such a corn crop as that, I should say, 7650 lbs. of ears worth in crib, $1.35 per 100 lbs., cash value of corn $103.27. This may seem too high to many, if they have not carefully watched the practical working of cob meal. But I think a large majority of the farmers in Essex County who have grown corn this season, will admit that four quarts of cob meal are worth as much as three quarts of the clear meal mills; with that data we have 7650 lbs. of ears, worth in the crib $1.15 per 100 lbs.; cash value of the corn $87.97.

It is well for the farmers of Essex County to know the full value of their meadow hay, butt-stalks, and corn-cobs. It is also well for them to know *the exact conditions under which they can realize full value for all their crops*, for, *economy in using is as important as economy in producing.*

ESSAY ON THE ANGLE WORM.

BY JAMES J. H. GREGORY, OF MARBLEHEAD.

Twenty-four years ago, in the year 1853, being too unwell to attend to any business, I gave a portion of my time during the spring and summer to the study of the common angle or

Digitized by Google

ground worm, with the view of determining his place in agriculture. I was led to this in part from a desire to learn something about a little animal about whom there were but very few facts on record; and in part to ascertain whether the general sentiment of the community, and one to which even so eminent an observer as the late Prof. Agassiz seemed to give sanction, namely, that it was not a friend to agriculture, was correct.

I selected for special observation portions of my father's garden, located in Marblehead, Massachusetts, on the sea-coast. Much of it had been under cultivation off and on for a long series of years, and for the twenty years previous in a high state of cultivation. The soil was a strong loam, underlaid at about three feet in depth with hard pan. Selecting an area containing about a square rod, on which for several years the vegetable refuse of a large family had been thrown, and into which, as it accumulated, it was at times dug, I aimed to determine the weight of worms the soil could be made to produce under very favorable circumstances. With this end in view I turned over the soil with a six-tined fork several times during the season, each time carefully collecting all except the very smallest of the worms. The sum of the different collections, when weighed, showed that this rod of ground had yielded a crop of worms at the rate of somewhat over 12,000 pounds, or six tons to the acre. The entire grounds, of about half an acre, were very rich in the worm crop, but not in the same proportion as the piece experimented on. A part of the worms so collected were fed to fowls, whose appetites appeared almost insatiable; and a part, after they were dead, were used as manure for hills of corn, in rich old garden soil. When used as manure, they had turned to a watery jelly, saturating the earth in which they had been kept while collecting, into a pasty, soggy mass. I could not see any beneficial effects on the corn crop; still it seems probable that there must be some manurial value even in such low organizations; for the conditions of even the lowest

Digitized by Google

forms of animal life imply the presence of fertilizing elements, such, for example, as nitrogen; and again, it would be contrary to the economy which is evident throughout the Divine plan in creation that an animal, though individually small, yet in the aggregate making so vast a bulk, should perform its functions and die beneath the surface of the earth and not feed vegetation. If it were so in this instance, I think it would be the one exception. In the experiment tried, the land was previously in such high condition, that it is doubtful if any of the commercial fertilizers would have shown any effects on the crop; perhaps for the same reason my worm manure failed.

To ascertain how often during the growing season worms come to the surface, I selected a square foot of ground, near the edge of a low embankment, where the soil was rather dryer than that of the average of the garden. From early spring until the hottest weather of summer had passed, I visited this every morning to collect the earthy borings that the worms had deposited during the night. To my great surprise I found by these borings, that, with but two exceptions in the very hottest portion of the summer, they came to the surface every night during spring and summer. The collected mass of borings for the season was about a quart in bulk, sufficient to raise the surface of the garden if deposited all over it in the same proportion half an inch in height.

And here it may be in place to describe briefly the structure and habits of the angle worm. Naturalists tell us that it is hatched from an egg. When developed, as we find it in our gardens, it is a most simple structure, quite low in the scale of animal life, appearing to be but little more than a series of connected rings with a tube running through them. At one end of the tube is the mouth. If we draw our finger up and down the worm, we will usually feel a degree of roughness when drawing it up toward the head. Naturalists explain this by the presence of hair. These hairs are so arranged and inclined as to be somewhat prehensile in their

Digitized by Google

character. If we watch a worm in the evening, when most of its body is stretched out of its hole, we will see it sweeping around, having the hole as a pivotal centre, until it has come in contact with some bit of refuse matter, such as a fallen leaf or blossom, which, sticking to the slimy exudation that always covers the body of the worm, it draws into its hole. The common opinion that the angle worm feeds on growing plants, which leads housekeepers to take special pains to kill any that may be found in their flower pots, and gardeners at times to apply strong alkaline solution to kill those found in their grounds, my observation and experience have led me to believe is a great mistake. Their place in the Divine economy appears to be the same in relation to vegetable matter as that of the vulture family to animal matter,—to remove and devour dead and waste vegetable refuse.

To test the thoroughness of their work in this direction, towards the close of an afternoon in spring I spread three dozen abortive pears, that had been shed from the tree at the time of blooming, over a piece of ground about a foot square. In the morning I found that every one of them had been removed, and all but three or four which could be seen at the mouths of the holes of the worms, had entirely disappeared. A study of a worm hole is quite suggestive of the probable office of the ground worm in the economy of nature. We find it winding its way down through the surface into the subsoil, in a line which appears to deviate from a perpendicular only so far as stones or hard substances render it necessary for the little excavator to make it so. The depth of the holes depends mostly on the character of the subsoil, and its distance from the surface. On my grounds I found them three and four feet in depth, penetrating some ways into the hardpan.

One great object in agriculture is to aerate the soil, to the end that the air may so act on its elements that they may be converted into plant form. When we consider that the little quiet worker bores its holes by the hundreds of thousands to

Digitized by Google

the acre, far down into the subsoil, we have some measure of our indebtedness to him. If next we examine these passage-ways of the worm, by which it descends to its subterranean abode, we will find that the portion of them below the surface soil can be to a greater or less degree traced by their dark lining, which may be surface soil carried down on the slimy body of the worm in his descent,—or excrementative matter, perhaps part of each. In either case it must enrich and improve the subsoil for agricultural uses.

There is a third office of these numberless galleries, which must not be overlooked; as it is a fact that their little tenants come to the surface about every night of the growing season, then it must follow that the galleries are open in times of drought to admit the air which then is heavily loaded with moisture, which must be deposited on the cooler interior. Again, these myriad openings probably serve as conductors to convey the water of summer showers into the subsoil, and thus hold in numberless tiny reservoirs that which otherwise would be wasted in the hurried dash on a dry, dusty surface, which characterizes most of our summer storms.

If then the angle worm is a friend to agriculture, the fact may have some bearing on the manure question,—for those manures which abound most in vegetable matter are favorable to his growth, and vice versa. Among those favorable to his development, barnyard manure would doubtless rank the highest, while the guanos, phosphates, and the various other chemical fertilizers, cannot any of them be favorable, while some must be prejudicial to his development.

To one who has been accustomed to the abundance of the angle worm in highly cultivated gardens, the fact is a striking one that in Northen New England there are locations where it is very scarce, and yet in these very localities, if once brought there, and put in land where the house waste is thrown, they will rapidly increase and become as plenty as I have ever seen them elsewhere. The fact that the worm comes to the surface during the nights of summer, is alluded

Digitized by Google

to in the old adage, "it is the early bird that catches the worm;" the robin may be seen to pull them up any morning by those who rise as early as the early bird. As has been stated, the ground worm is very low in the scale of animal life,—having but little besides the extremity of a tube for a mouth, while it can neither see nor hear, and its sense of taste, if it has any, must be of the simplest. If we take a lantern and go out at night, after a summer shower, we will find the ground in old gardens abounding with them, stretched sometimes to a foot in length over the surface, and all in slow motion. We may bring the light as near them as we please, provided they do not feel the heat of the flame, and they show no consciousness of its presence; we may clap our hands, or make other noise, provided we cause no vibration of the ground, and still they show no consciousness; but if we now stamp with the foot, or in any way cause a vibration of the ground, simultaneously every one within reach of it will instantly draw into his hole. If they are very numerous, a singular effect of this sudden, instantaneous withdrawing is to give an impression that the earth has moved under our feet, and cause a slight feeling of giddiness. While they appear to be so insensible to lamp light, (I have not exposed them to it for any length of time,) why do they retire at the approach of day? Can it be that natural light exercises any chemical action on their bodies? Those in the vicinity of any strong manure I have noticed are not as large as the average, but are more intensely red, and sometimes quite yellow in color. Can it be that these are of a species or variety different from the common angle worm?

In the heat of summer by day they retire to the bottom of their holes, as the boys know who dig for them in vain for bait, (dig for them late in the evening, boys, when they come up to the surface,) and there they may be found, rolled into a ball, or tied up into a knot, (probably they were the first of knot-tyers.) Doubtless this is to prevent the too great evaporation of the slimy moisture which appears a necessity

Digitized by Google

for their existence. Though cold to the touch, yet they need a degree of heat to preserve life, and, doubtless for this reason in part, they descend below the reach of frost. As soon as the frost breaks ground, they come to the surface, and should the gardener in early spring be in doubt as to whether his grounds are fully thawed, he has but to turn up a forkful of earth, and the presence or absence of the angle worm will settle the question; for if he is at the surface then there can be no icy barrier remaining between him and his winter home. At one time, while collecting some late in the fall, I threw them into a shallow box, in which were a few handfuls of earth, and left them out over night. It was cold, and the surface of the ground was frozen about an inch in depth. In the morning I found them all gathered and intertwined into a round ball, about the size of a child's fist. I inferred that their object was to endeavor to maintain the low temperature necessary for their existence, and the form they had chosen was certainly the very best possible for that end.

Digitized by Google

RESOLUTIONS ON THE DEATH OF MEMBERS OF THE SOCIETY.

At the Annual Meeting at Lawrence, September 25th, 1877, Maj. Ben: Perley Poore, of West Newbury, offered the following Preamble and Resolutions, which were unanimously adopted:

Whereas, the Essex County Agricultural Society has lost by death, since its last annual meeting, a number of valuable members, who have occupied conspicuous positions, viz: George W. Boynton, of Georgetown, Edward H. Little, of Newbury, Samuel Moody, of West Newbury, Thomas J. Clark, of Salisbury, Moses P. Payson, of Rowley, Henry A. King, of Peabody, Andrew Dodge, of Wenham, and Thomas E. Payson, of Providence, Rhode Island:

Resolved, That the Society remembers with pride the devotion to agricultural pursuits which characterized our deceased associates, and expresses its sincere regret at their loss.

Resolved, That a copy of this preamble and resolutions be communicated to the respective families of our deceased associates.

Digitized by Google

E. H. PAYSON, TREAS'R, IN ACCT. WITH THE ESSEX AGRICULTURAL SOCIETY.

1876.	Dr.	
September.	To balance of former account rendered	$123 15
October.	To Bank Dividends in October	452 40
	To Essex Railroad coupons	8 17
	To State Bounty	600 00
	Amount refunded by State	214 61
	To amount of receipts at Fair in Danvers, per account of Committee	1,405 26
1877.		
February 2.	To Dividend of Gas Co	18 00
March 15.	To Essex Railroad coupons	21 00
April 3.	To Bank Dividends for April	488 90
July.	To Dividend of Gas Co	18 00
August 24.	To net proceeds of sale of six shares of Gas stock	598 50
September 7.	To Rent of Farm one year	500 00
	To amount of unclaimed premiums	103 50
	To amount received from new members	108 00
	To Essex Railroad coupons	21 00
		$4,680 49

1876.	Cr.		
September.	By amounts of Premiums and Gratuities awarded by the Trustees	$1,688 75	
1877.	additional	249 50	$1,938 25
	By expenses of Exhibition at Danvers, paid by Committee	1,054 66	
	By expenses of Exhibition paid by Treas'r	208 68	1,263 34
	" Treadwell Farm		501 18
	" Printing		564 61
	" Secretary's account		243 13
	" Record Books, 5 50; Tags, 35 00		40 50
	" Interest on money borrowed		28 83
	" Rent to Athenæum		25 00
	By balance to new account		75 65
			$4,680 49

E. E.

EDWARD H. PAYSON, Treasurer.

Salem, September, 1877.

Digitized by Google

FUNDS BELONGING TO THE SOCIETY.

5 shares First National Bank, Danvers	$375 00
16 shares Warren National Bank	1,595 40
8 shares National Exchange Bank, Salem	800 00
18 shares First National Bank, Salem	1,914 66
12 shares Mercantile National Bank	1,226 50
23 shares Merchants National Bank, Salem	1,189 50
15 shares South Danvers National Bank	1,471 25
5 shares National Revere Bank	585 87
42 shares Asiatic National Bank	1,281 25
18 shares Salem National Bank	2,000 00
Essex Railroad Bonds, par	700 00
Cash on hand as above	75 65
	$13,215 08
Last year this item was	13,880 33
Loss, including $89 25 on Gas Stock	$665 25

In 1875 this item was $14,426 20.

In 1874 " " $15,020 30.

The undersigned has examined the within account of receipts and disbursements of the Treasurer, and also his statement of the funds belonging to the Society, (showing a balance in his hands of $75 65) and find the same correctly cast and duly vouched.

C. KIMBALL, for Committee of Auditors.

SALEM, Dec. 3, 1877.

Digitized by Google

OFFICERS OF THE SOCIETY,

FOR 1877-78.

PRESIDENT.

BENJAMIN P. WARE, of Marblehead.

VICE PRESIDENTS.

GEORGE B. LORING, of Salem.
JAS. J. H. GREGORY, of Marblehead.
DANIEL H. STICKNEY, of Groveland.
THOMAS K. LEACH, of Topsfield.

TREASURER.

EDWARD H. PAYSON, of Salem.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

HONORARY TRUSTEES.

JOSEPH HOW, of Methuen.
ALLEN W. DODGE, of Hamilton.
WILLIAM SUTTON, of Ipswich.

Digitized by Google

TRUSTEES.

Charles C. Blunt, Andover;
Thos. H. Balch, Groveland;
John H. Cheever, Manchester;
William Cogswell, Bradford;
Caleb Childs, Marblehead;
W. H. B. Currier, Salisbury;
Wm. B. Carlton, Haverhill;
John Danforth, Lynnfield;
Alonzo B. Fellows, Ipswich;
James Flint, Middleton;
Henry W. Foster, Beverly;
Ariel H. Gould, Topsfield;
Bennett Griffin, Gloucester;
A. E. Goodwin, Merrimac;
J. Z. Gordon, W. Newbury;
Joseph S. Howe, Methuen;
Samuel Hawkes, Saugus;
B. F. Huntington, Amesbury;
Joseph Hale, Rowley;
Milon S. Jenkins, N. Andover;
James P. King, Peabody;
Oliver P. Killam, Boxford;
Aaron Low, Essex;
Jarvis Lamson, Hamilton;
Wm. B. Morgan, Wenham;
John W. Marshall, Rockport;
Sidney F. Newman, Newbury;
Sherman Nelson, Georgetown;
Francis P. Putnam, Danvers;
John P. Palmer, Swampscott;
Geo. W. Russell, Lawrence;
John L. Shorey, Lynn;
Geo. W. Simmons, Nahant;
Horace C. Ware, Salem;
J. Otis Winkley, Newburyport.

NEW MEMBERS—1877.

Henry V. Buxton, Peabody;
David L. Foster, Beverly;
Hayden A. Merrill, Beverly;
W. A. Keleher, Lawrence;
Francis R. Appleton, Ipswich;
H. E. Holt, Bradford;
Perry B. Knowlton, Essex;
Richard Newell, W. Newbury;
Chas. W. Ordway, W. Newb'y;
Paul T. Winkley Jr., Newb'p't;
Doane Cogswell, Bradford;
Geo. W. Ellis, Hamilton;
Geo. Buchan, Andover;
J. Adams Ilsley, Georgetown;
J. D. Drew, Lawrence;
Edwin H. Barnard, Andover;
James B. Smith, Andover;
John L. Smith, Andover;
Frederic Gilman, Lawrence;
S. K. Johnson, Andover;
Solomon Fuller, Danvers;
John E. Gale, Haverhill;
Geo. G. Creamer, Hamilton;
M. B. Merrill, W. Newbury;
C. J. Norwood, Ipswich;
Moses A. Bailey, Andover;

Digitized by Google

Geo. C. Foster, Andover; Geo. B, Bradley, Methuen;
Jos. E. Buswell, Methuen; M. B. Ames, Lawrence;
E. A. Fiske, Lawrence; Otis Mann, Newbury;
John O. Wiley. No. Andover; Daniel Tenney, Newbury;
John Mitchell, Beverly; Edward Flynn, Lawrence.
Virgil Dow, Methuen;

☞ Any citizen in the County may become a member by paying the sum of three dollars to increase the permanent funds of the Society, and he will receive a certificate of his membership from the Secretary. No fines or assessments are ever imposed. Members are entitled to the free use of the Library, and a copy of the Transactions each year. All ordained Ministers of the Gospel residing in the County, and editors of newspapers, published therein, are entitled to the privileges of the Library.

LIBRARY.

The LIBRARY is established at the Plummer Hall, Essex Street, Salem, where members can obtain books under the following Regulations:—

1. Each member shall be entitled to take from the Library TWO VOLUMES, on signing a receipt for the same, and agreeing to be accountable therefor.

2. No member shall keep any book more than two weeks, after being notified (by the Librarian) that the same is wanted by another member.

3. All books belonging to the Library shall be returned on or before the 15th of November in each year; that the same may be examined and the condition of the Library reported to the Trustees.

4. Any member who shall neglect or refuse to conform to these regulations, shall thereby forfeit the privilege of taking books from the Library.

Digitized by Google

LIST OF PREMIUMS, &c.

FAT CATTLE.

William Peters, North Andover, first premium, $12 00

BULLS.

J. D. W. French, North Andover, Ayrshires, two years old and upwards, first premium, $12 00

George B. Bradley, Methuen, Ayrshires, two years old and upwards, second premium, 6 00

Doane Cogswell, Bradford, Ayrshires, under two years, first premium, 6 00

Charles Perley, Boxford, Ayrshires, under two years, second premium. 4 00

J. D. W. French, North Andover, best bull of any breed, with five calves of his stock not less than one year old, Ayrshire Bull "Fitz James," premium, 30 00

Z. C. Wardwell, Groveland, Jersey Bulls, first premium, 12 00

F. R. Appleton, Ipswich, Jersey Bulls, second premium, 6 00

W. A. Russell, Lawrence, Holstein Bulls, under two years, first premium, 6 00

W. A. Russell, Lawrence, Holstein Bulls, under two years, second premium, 4 00

WORKING OXEN, BULLS, ETC.

George A. Butters, Methuen, Oxen, first premium, $15 00

B. H. Farnum, North Andover, Oxen, second premium, 12 00

Moses A. Bailey, Andover, Oxen, third premium, 10 00

George F. Mason, Andover, Working Steers, four years old, first premium, 10 00

John P. Foster, North Andover, Working Steers, four years old, second premium, 6 00

W. A. Russell, Lawrence, Working Bulls, first premium, 15 00

Digitized by Google

MILCH COWS.

W. A. Russell, Lawrence, best grade Cow, first premium,	$12 00
W. A. Russell, Lawrence, best grade Cow, second premium,	6 00
W. A. Russell, Lawrence, best Holstein Cow, first premium,	12 00
W. A. Russell, Lawrence, best Holstein Cow, second prem.,	6 00
J. D. W. French, North Andover, Ayrshires, first and second premiums, ($12. and $6.,)	18 00
Charles Perley, Boxford, for best Milch Cow, special prem.,	25 00

HERDS OF MILCH COWS.

J. D. W. French, North Andover, first premium,	18 00
G. W. Russell, Lawrence, second premium,	12 00.

HEIFERS.

J. D. W. French, North Andover, thoroughbred Ayrshires in milk, first and second premiums, ($12. and $6.)	$18 00
J. D. W. French, North Andover, thoroughbreds not in milk, first premium,	6 00
Charles Perley, Boxford, thoroughbreds not in milk, second premium,	4 00
J. D. W. French, North Andover, Calves, first premium,	5 00
Charles Perley, Boxford, Calves, second premium,	3 00
Geo. B. Bradley, Methuen, Native or Grade Heifers under four years, in milk, first and second prem., ($12 and $6.)	18 00
Daniel Carleton, North Andover, Native or Grade Heifers, under four years, not in milk, first premium,	6 00
W. B. Carleton, Haverhill, Native or Grade Heifers, under four years, not in milk, second premium,	4 00
W. B. Carleton, Haverhill, Calves, first premium,	5 00
Levi Emery, Lawrence, Jersey Heifers in milk, first premium,	12 00
George W. Russell, Lawrence, Jersey Heifers in milk, second premium,	6 00
Levi Emery, Lawrence, Jersey Heifers not in milk, first prem.	6 00
F. R. Appleton, Ipswich, Jersey Heifers not in milk, second premium,	4 00
F. R. Appleton, Ipswich, Calves, first premium,	5 00
Geo. W. Russell, Lawrence, Calves, second premium,	3 00
W. A. Russell, Lawrence, Holstein Heifers not in milk, first premium,	6 00
W. A. Russell, Lawrence, Calves, first premium.	5 00

Digitized by Google

TOWN TEAMS.

North Andover, Horse Teams, first premium,	$30 00
Methuen, Horse Teams, second premium,	15 00
Andover, Ox Teams, first premium,	30 00
Methuen, Ox Teams, second premium,	15 00

STEERS.

Joseph Kittredge, North Andover, Yearlings, first premium,	5 00
J. H. Farnum, North Andover, gratuity,	3 00

STALLIONS.

William Keleher, four years old and upwards, first premium,	$18 00
George W. Russell, Lawrence, second premium,	12 00
M. B. Merrill, West Newbury, third premium,	10 00
George W. Rogers, Salem, three years old, first premium,	10 00
H. E. Holt, Bradford, second premium,	8 00
Dr. Wm. Cogswell, Bradford, Stallion with Colts of his own stock, special premium,	30 00

BROOD MARES.

Justin E. Bradstreet, Bradford, first premium,	$18 00
Albert Titcomb, Rowley, second premium,	12 00
Abiel Wilson, North Andover, third premium,	10 00

FAMILY HORSES.

John E. Gale, Haverhill, first premium,	$18 00
S. K. Johnson, Andover, second premium,	12 00
H. E. Holt, Bradford, third premium,	10 00

FARM AND DRAFT HORSES.

Joshua Roberts, Gloucester, first premium,	$15 00
S. F. Newman, Newbury, second premium,	12 00
J. O. Winkley, Newburyport, third premium,	10 00
R. Welch, Methuen, fourth premium,	6 00

PAIRS OF DRAFT HORSES.

T. O. Wardwell, North Andover, first premium,	$15 00
E. P. Perley, Danvers, second premium,	10 00

Digitized by Google

COLTS—FIRST CLASS.

J. O. Winkley, Newburyport, best four year old,	$12 00
E. T. Northend, Newburyport, best three year old,	10 00
B. S. Barnes, Boxford, second premium,	5 00

COLTS—SECOND CLASS.

Daniel Tenney, Newbury, two years old, first and second premiums, ($8. and $3.,)	$11 00
Otis Mann, Newbury, one year old, first premium,	8 00
J. J. Downing, Andover, second premium,	5 00

SWINE—FIRST CLASS.

Virgil Dow, Methuen, Breeding Sow, first premium,	$10 00
M. Birmingham, Salem, Boar, second premium,	6 00
H. G. Herrick, Lawrence, Breeding Sow, second premium,	6 00
Levi Emery, Lawrence, litter of Pigs, first premium,	6 00
C. T. Emerton, Peabody, " " second premium,	4 00

SWINE—SECOND CLASS.

Benj. P. Ware, Marblehead, Essex Boar, first premium,	$10 00
J. D. W. French, No. Andover, " " second premium,	6 00
Daniel Carlton, North Andover, Breeding Sow, first premium	10 00
Joseph Kittredge, No. Andover, Breeding Sow, second prem.,	6 00

SHEEP.

Joseph Kittredge, No. Andover, first premium best flock, Appleton premium,	$25 00
F. R. Appleton, Ipswich, best flock Cotswold, first premium,	10 00
Henry G. Kimball, Bradford, Yearling Buck, first premium,	8 00
F. R. Appleton, Ipswich, flock of four lambs,	4 00

PLOUGHING—DOUBLE TEAMS.

Benjamin H. Farnham, No. Andover, first premium,	$12 00
J. D. W. French, No. Andover, second premium,	10 00

PLOUGHING—WITH HORSES.

Joshua N. Kent, Newbury, first premium,	$12 00
R. S. Bray, Newbury, second premium,	10 00
M. H. Poore, West Newbury, third premium,	8 00
Geo. W. Russell, Lawrence, fourth premium,	6 00
Paul T. Winkley, Newburyport, fifth premium,	5 00

Digitized by Google

PLOUGHING—SWIVEL PLOUGH.

Wm. A. Russell, Lawrence, with oxen, first premium,	$12 00
John P. Foster, North Andover, second premium,	10 00
Peter Smith, Andover, fourth premium,	5 00
C. J. Norwood, Ipswich, Horses, first premium,	10 00
Edward P. Perley, Danvers, second premium,	6 00

CARRIAGES.

John E. Bailey, Marblehead, for Rubber Spring to Buggy and Sleigh,	Diploma.
Spear & Fifield, Methuen, Grocer's Wagon, premium,	$5 00
" " " Provision Dealer's Wagon,	Diploma.
Wm. Poor, Andover, Meat Wagon, gratuity,	6 00
Geo. H. Ferguson, Lawrence, Light Express Wagon,	5 00
" " " one Top Buggy,	Diploma.
M. B. Ames, Lawrence, Sleighs,	3 00
" " " two Top Carriages,	10 00
Chas. Manson, Haverhill, three Wagons, gratuity,	6 00
J. W. Joyce, Lawrence,	5 00

IMPROVING PASTURE AND WASTE LANDS.

Joseph Horton, Ipswich, first premium,	$15 00

EXPERIMENTS WITH MANURES.

Benj. P. Ware, Marblehead, first premium,	$15 00
James P. King, Peabody, second premium,	10 00

GRAIN CROPS.

Geo. L. Flook, West Newbury, Corn Crop, first premium,	$10 00
Jas. J. H. Gregory, Marblehead, " " gratuity,	8 00
E. P. Robinson, Hamilton, Rye, first premium,	10 00

ROOT CROPS.

J. D. W. French, No. Andover, Potato Crop, first premium,	$10 00
" " " Ruta Baga crop, first prem.,	10 00
" " " Mangold Crop, first premium,	10 00
Daniel Carlton, No. Andover, Onion Crop, first premium,	10 00
J. J. H. Gregory, Marblehead, Cabbage Crop, first premium,	10 00

ESSAYS.

Ansel W. Putnam, Danvers, first premium,	$10 00
Jas. J. H. Gregory, Marblehead, second premium,	8 00

Digitized by Google

REPORTS OF COMMITTEES.

J. S. Howe, Methuen, Report, first premium,		$10 00
Joseph How, Methuen, Report, second premium,		8 00
T. C. Thurlow, W. Newbury, Report, third premium,		6 00
Awarded by the Committee on	Poultry,	22 00
" " "	Vegetables and Seeds,	131 50
" " "	Bread, Honey, and Preserves,	18 50
" " "	Flowers,	48 00
" " "	Fruits,	258 00
" " "	Counterpanes and Rugs,	24 00
" " "	Leather Goods,	15 00
" " "	Manuf's and Gen. Merchandise,	25 00
" " "	Fancy Work, &c.	52 50
" " "	Work by Children,	14 50
	Total,	$1802 00

RECAPITULATION.

FARMS.

Amount awarded to	Ploughing,	$106 00	
" "	Improving Pasture, &c.,	15 00	
" "	Experiments with Manures,	25 00	—$146 00

FARM STOCK.

Amount awarded to	Fat Cattle,	$12 00	
" "	Bulls,	86 00	
" "	Working Oxen and Bulls,	68 00	
" "	Milch Cows,	109 00	
" "	Heifers,	116 00	
" "	Town Teams,	90 00	
" "	Steers,	8 00	
" "	Stallions,	88 00	
" "	Brood Mares,	40 00	
" "	Family Horses,	40 00	
" "	Farm and Draft Horses,	43 00	
" "	Pairs of Draft Horses,	25 00	
" "	Colts,	51 00	
" "	Swine,	64 00	
" "	Sheep,	47 00	
" "	Poultry,	22 00	—$909 00

Digitized by Google

FARM PRODUCTS.

Amount awarded to		Fruit,	$258 00	
"	"	Flowers,	48 00	
"	"	Vegetables,	131 50	
"	"	Grain Crops,	28 00	
"	"	Root Crops,	50 00	
"	"	All other objects,	231 50	$747 00
		Total,		$1802 00

Digitized by Google

AMENDMENT TO THE CONSTITUTION.

ARTICLE 1. The President, Vice Presidents and Secretary of the Society shall be elected at the annual meeting by ballot.

ARTICLE 2. The Trustees shall be elected annually, one for each town in the County, and the Trustee for each town shall be elected by the members of the Society in said town at a meeting called for that purpose, in accordance with notice issued by the Secretary; and such election shall be final, and shall constitute the Trustee so elected a member of the board of Trustees of the Society; and the result of the election in each town shall be communicated as early as possible to the Secretary.

Digitized by Google

CONTENTS.

	PAGE.
Address of Oliver S. Butler,	3
The Exhibition,	19
Report on Fat Cattle,	19
" Bulls,	20
" Milch Cows,	21
" Herd of Milch Cows,	24
" Heifers,	29
" Working Oxen, Bulls, and Steers,	31
" Town Teams,	32
" Steers,	36
" Stallions,	36
" Brood Mares,	36
" Family Horses,	37
" Farm and Draft Horses,	37
" Pairs of Draft Horses,	37
" Colts,	39
" Swine,	39
" Sheep,	40
" Poultry,	41
" Ploughing,	43
" Carriages,	46
" Bread and Honey,	46
" Pears,	47
" Apples,	48
" Peaches, Grapes and Assorted Fruits,	49
" Flowers,	53
" Vegetables,	55
" Counterpanes, Carpetings and Rugs,	57
" Leather Work,	59
" Manufactures and General Merchandise,	59
" Fancy Work and Works of Art,	59

Digitized by Google

Report on Children's work, ... 61
" Improving Pasture and Waste Land, . . 61
" Manures, ... 65
" Grain Crops, ... 72
" Root Crops, ... 78
" Seedling Potatoes, ... 84
" Exhibit of Manufactures at the Fair, . . 87
" Treadwell Farm, ... 91
" New Winter Apples, ... 93
" Essays and Reports, ... 101
Essay by Ansel W. Putnam, on "Comparative Value of Crops as Food for Cattle," 102
Essay by J. J. H. Gregory, on The Angle Worm, . . 106
Resolutions on the Death of Members of the Society . . 113
Treasurer's Report, ... 114
Officers and New Members, ... 116
Library, ... 118
List of Premiums, ... 119
Amendment to the Constitution, ... 126

Digitized by Google

Digitized by Google

Digitized by Google

Agricultural Society

TRANSACTIONS

OF THE

Essex Agricultural Society,

IN MASSACHUSETTS,

For the Year 1878,

WITH THE

FIFTY-SIXTH

ANNUAL ADDRESS,

BY T. C. THURLOW,

OF WEST NEWBURY.

Published by Order of the Society.

SALEM:
PRESS OF THE ESSEX COUNTY MERCURY.
1878.

Digitized by Google

Digitized by Google

TRANSACTIONS

OF THE

Essex Agricultural Society,

IN MASSACHUSETTS,

For the Year 1878,

WITH THE

FIFTY-SIXTH

ANNUAL ADDRESS,

BY T. C. THURLOW,

OF WEST NEWBURY.

Published by Order of the Society.

SALEM:
PRESS OF THE ESSEX COUNTY MERCURY.
1878.

Digitized by Google

Digitized by Google

ADDRESS.

Mr. President, Ladies and Gentlemen of the Essex Agricultural Society:—

In choosing me to deliver the annual address before this Society, you have selected one who though wholly unused to public speaking, is not unfamiliar with practical farming: one who has been accustomed from his youth to guide the plough, to handle the hoe, the spade, and the pruning-knife, and can not only say, as men of other professions are apt to on occasions like this, "I lived on a farm when a boy"—but more—I have remained, and intend to die upon one.

I have chosen for my subject "Suggestive Hints," and it will perhaps be excusable if I indulge in a few friendly criticisms on the general management of farms in this vicinity, at the present time.

In the first place, every farmer, if he has not already done so, should sit down carefully and candidly to consider to what crop, or crops, his farm is best adapted; in relation to its nearness to, or distance from a market; the quality of the soil, whether heavy or light, whether best adapted to grass, and the raising of stock, and the production of milk—or the growing of early vegetables and small fruits. He might with profit consult his more experienced neighbors in regard to it, and after being fully persuaded what course to pursue, let him stick to it; not changing from one crop or system to another, but making a specialty of some particular branch of husbandry, he will in the long run succeed in any, provided he combine with it a sufficient amount of skill, prudence and industry. Perhaps there is no one thing in which farmers as

Digitized by Google

a class are so deficient, as in a regular system of keeping accounts; in knowing in dollars and cents what this or that crop costs, or what is the actual profit from each animal. In what other business could a man succeed, who was so generally negligent of his accounts? These can be kept every day in the most simple manner; so that at the end of the year he can easily see what it has cost the family for sugar, for butter, for milk and for flour; the cost and proceeds of every animal and crop can also be very nearly estimated. The result would be that the yearly income from one cow would be found to be thirty or forty dollars, that of another seventy-five to a hundred; one yoke of oxen would have depreciated in value twenty-five or thirty dollars, while another would have gained as much. It would be seen that two old broken down horses would be less serviceable than one good one well kept, and so on.

A short time since, in talking with a smart, active New Hampshire farmer, he said to me, "I can raise corn at thirty cents per bushel." Being asked if he reckoned the loss to his land, interest, taxes, etc., he replied, "No, if you reckon all these, there is no profit in any crop." But they should all be taken into the account; then if it is found there is no real profit, it shows the need of still closer observation and care.

Recently, at a very pleasant dinner party, given by a gentleman of this county, supposing he had owned his farm but a few years, I asked him how long he had lived upon his estate. His reply was, "Two hundred and fifty years." This he immediately qualified by saying, "Perhaps one hundred and fifty years, or ever since the settlement of the country." Friends, many of you have lived upon your farms a hundred and fifty years, and as you look back and see the work that your fathers have accomplished, will you rest satisfied with your present attainments? The world moves forward; in science, in art, in agriculture, and those of you who will occupy these farms one hundred and fifty years hence, will, or

Digitized by Google

ought to be, as much in advance of us of the present day, as we are ahead of our fathers of a hundred and fifty years ago.

Make improvements; commence at home. Is there nothing about your house which can at a trifling expense be made more attractive and beautiful? A new coating of paint—the old chimneys modernized and repaired; a bay window here to contain the flowers, or a portico there both for comfort and ornament? Have your family all the conveniences they require and deserve? Are the best modern improvements in kitchen, pantry and living room? Is a good supply of dry fuel always on hand in a convenient place? Is pure healthful water accessible at all times to the house and stable? Have you carefully examined the drainage about your premises, to see that no subtle undercurrent is gradually destroying the health of yourself and family? While this subject has received so much attention from sanitary committees and physicians in our larger cities, I think it has been very much neglected in our country homes. Have you good ventilation in every apartment of your house? If not, secure it as soon as possible. Make home pleasant for the children—while they have their books, their papers, and their games for winter, they should also have their croquet ground, their pet animals, and their flower garden. Who of us that are older does not remember with pleasure the old cherry, pear, or early apple tree in our father's garden? What boy who has ever owned a pet colt, or a pair of steers, and called them his, if he lives to be a man and becomes a farmer, will not love his profession better, and be a better farmer for having owned them?

Many a boy has been driven from his paternal home, who would otherwise have stayed and adopted the profession of his father, had not that father, with too close a grasp and too arbitrary a disposition, treated him merely as a hireling—not consulting with him in his plans and purposes, and finally threatening to disinherit him if he should leave his home, and not become a farmer. You fathers, who have children grown

Digitized by Google

up to years of discretion, why not lot out your property to them, or at least have it understood what part, in case of your death, each one is to have—whether of land or money—that they make improvements upon and take an interest in what is to be theirs, and not feel that only at death will it be released from your tight grasp, and look forward to that event with pleasure rather than with sorrow.

Next to the house, the barn should receive special attention. It should be convenient and airy, at the same time tight and comfortable for the domestic animals. There should always be a cellar under it, if practicable. Plenty of dry muck and loam should be on hand to mix with the manure and absorb the ammonia. Everything about the premises should be kept sweet and clean. The wash from the house and sink drain should all be utilized and saved; mixed with dry earth, it contains very much of fertilizing material. Good water at all seasons of the year is indispensable in the barn yard. Many a farm in this county, at a trifling outlay of a hundred, or a hundred and fifty dollars, could be supplied with pure running water the year round; while now a great amount of hard labor is expended in drawing or pumping water for the cattle, and by the inmates of the house, in going perhaps rods, through winter's snow and summer's sun, to bring water for household purposes.

A large amount of money is every year wasted by the neglect of tools. Carts and farm wagons are often left unpainted and uncared for, till they fall to pieces through sheer neglect. A plough, cultivator, mowing machine, or steel tooth horse rake is often more injured by being exposed in one rain storm, or even in several heavy dews, than by years of use. Get the best, and take good care of them, and buy no more than are absolutely needed, should be the motto of every farmer. The farmer should plan out his work for weeks and months ahead. There are, in every season, certain days that are most suitable for planting, for haying, and for harvesting; these, if neglected, often result in serious

Digitized by Google

loss. It was the maxim of a successful farmer, always to have work under cover for rainy days, and never to work indoors in pleasant weather.

No farmer who cares for the health and comfort of his family will be without a good vegetable garden, the real value and luxury of which cannot well be reckoned in dollars and cents.

A neat and well kept flower garden is always a source of pleasure and refinement, and it is surprising to notice the improvement in floriculture, within a very few years. Nearly every door-yard contains asters, verbenas and geraniums, for which ten years ago any florist in the country would have taken first prizes.

The farmer should *think* as well as work. His library, however small, should contain a few of the best standard works, and the leading agricultural papers; none of them but will suggest some idea, and the thought goes before the act.

A farmer's club is of great value always, both for its practical utility and for drawing out the best social qualities. The rural town where I live has sustained such an one uninterruptedly for over twenty years, and although many of the earlier members have left us, their words, their thoughts, still live in our community.

Shade trees, which are indispensable in their proper place, are often planted too thickly and too near our dwellings, especially in towns and villages, thus causing them to be dark and unhealthy, when they should be light and cheerful. The larger species of evergreens are very much out of place on the sunny sides of our houses, while they would be very appropriate and necessary as screens and windbreaks along the cold and exposed sides of our buildings. I would recommend that a permanent committee on planting and locating shade trees be chosen in every town and village; the office would seem almost as important as that of the architect or landscape gardener. Rows of deciduous trees, planted along our road-

Digitized by Google

sides, would add much to the beauty and fertility of our farms, and a proper alternation of the maple, ash, beech, and chestnut, would produce a very pleasing and beneficial effect.

If the roads, especially near our houses, were kept clean of bushes, and instead of unsightly holes, piles of stones and other rubbish, the rough places were made smooth and sown down to grass,—then might our roadsides present the appearance of beautiful lawns, and at the same time be made profitable from the crops of grass, which could every year be taken from them. Formerly hogs were allowed to run at large in the public roads, but modern civilization has confined these animals to proper limits; it is to be hoped that at no distant day cattle and horses will be thus restrained, and not allowed to trespass where they have no more legal right than in your neighbor's fields and garden.

Many of the apple orchards of this county have of late years been sadly neglected. Perhaps the trees were formerly planted too thickly, and there were too many of them, but if they had received proper care and been protected from insects, they would today have been a source of great profit, Thirty years ago, according to a careful record kept at that time by my neighbor Maj. Poore, there were fourteen thousand barrels of apples raised in the town of West Newbury in a single year—very largely of Roxbury Russets. Now there are probably not over five thousand barrels raised in the same town in a productive year. Good winter apples, like the Baldwin and Russet will always sell at fair prices. Foreign markets are just being opened for them, and we, near the sea coast, have the advantage for shipping, of those living inland. Let us learn to pick and sort our apples with more care, and put them up *honestly* in clean nice barrels, then our fruit will soon have a reputation abroad, and will be always sought for at good remunerative prices.

There are other fruits which might be raised to advantage in this county, and with experience, and a fair amount of skill, could be made as profitable as any other farm crop.

Digitized by Google

Pears, peaches, quinces and plums are adapted to this section, and can be grown here to perfection. Grapes, which ripen tardily in our New England climate, are desirable for family use; some of the earliest varieties should be cultivated, and may possibly be raised with profit for the market. Cherries are a luxury, but they add much to the pleasures of home, and no fruit garden is complete without them. Strawberries and the other small fruits are a fixed fact. No town or village in the future but will have them; even at the present low prices, they are a paying crop. While people in cities, even of moderate means, have learned to use fruit freely as a necessary article of food, it is to be feared that in the country the fruit garden has been too often neglected. This is next in importance to the vegetable garden, and no farmer should fail to furnish his family with a supply of fruit, from the earliest strawberries to the latest winter apples and pears. It is to be regretted that many varieties of fruit which were formerly raised here in great abundance should have been almost wholly abandoned. For instance, winter pears, very delicious for cooking, were found on many farms almost as plenty as apples; now the trees are cut away and destroyed; instead, we see long named exotics, which never can or will fill the places of our former favorites. The same will apply to plums and some other fruits. While it may be said that the varieties have deteriorated or the soil become exhausted, or that insects have increased more than formerly, it may be replied that what is worth little, costs us little; what is worth having is worth working for; that he who becomes discouraged or fainthearted because of drought, mildew, or a few insects, is not deserving of the fruits which a bountiful Providence would bestow upon us.

There is scarcely a farm in this county but what contains some piece which would well pay for underdraining; some unsightly hollow, some damp meadow, usually the best and most productive land on the farm, if properly underdrained. Have you who raise strawberries for the market ever tried

Digitized by Google

such a piece? Did not the crop surprise you who have underdrained for grass? Two inch tile from a neighboring town can now be delivered at any depot in this county at twenty dollars per thousand feet. These should be laid at a depth of not less than three and a half feet, with a fall of at least one inch to the rod. With the low price of labor at the present time, the cost is not as much as one would at first suppose.

Probably there is no better stock for the farmer in general in this vicinity than milch cows. In order to maintain the fertility of our soil, we should keep as many as possible, get the best, and feed well. But what to do with the milk is the problem. A few years ago, when there appeared to be an unlimited demand, the prospect was good; it is so now to a certain extent; still many of us have been obliged the past summer, to sell our milk at less than the cost of production. The demand for good butter is unlimited, and my own opinion is that butter making under the Harnden system (that is, setting the milk in deep cans at a low temperature), would be better for many of us, than selling milk at the present prices.

Some of our farmers refuse from year to year to bring up their best stock to this exhibition, saying they have very little chance with the petted animals of the few, who generally take the premiums. This difficulty may be all imaginary, but is there not some danger that even this old society, which has always so nobly excluded the race course, shall through her committees refuse a premium to a colt, which would otherwise be a valuable family or draft horse, because its ancestors could not show a record of less than three minutes? The impression too seems to have gone abroad, that, under the rules of this society, none but members will be allowed to take premiums. This is erroneous, as the prizes are open to all residents of the county, who will conform to the printed rules and regulations.

A great improvement has been made of late in cutting

Digitized by Google

grass earlier than formerly; it is now generally admitted by our most practical farmers, that all kinds of grasses should be cut when they are in flower, or very soon afterwards. We have along our sea coast several thousand acres of land, known as salt marshes, which might be made more valuable by judicious ditching and dyking. The grasses on these meadows are very apt to be neglected till late in the season, one or two months after they have blossomed and gone to seed; then the hay is comparatively worthless. The most valuable of these, the Black-grass (*Juncus Gerardi*), was in blossom this year, June 20th, and the Foxgrass (*Spartina Juncea*) July 20th. Bordering on the Parker River in Newbury, are about two thousand acres of these marsh lands, which by a dam near the mouth of the river, at the estimated cost of thirty thousand dollars, might be rendered very valuable for growing any of the upland crops.

Those who have travelled through this county for the past few years, must have noticed the very poor condition of many of the roads, especially in the vicinity of this city, and in the interior. The roads in several of the towns in the southeastern section of the county are excellent, and those who have the care of them deserve much praise. Would it not be well for towns in choosing surveyors, to select men who know the difference between gravel suitable for roads, and soil adapted to the compost heap?

On some of our farms the fences are in bad condition. Many a man spends more time in driving the cattle from the mowing lot and corn field in hay time, than he would in making good fences at the proper season. If we would keep our cattle and sheep from being unruly in summer, we must have good fences to start with in the spring.

The farmer should be *temperate* in everything; in eating and drinking, in sleeping and working; not doing two days' work in one, or overworking his tired body, because he sees so much to do. It is to be hoped, that the day will soon come when the use of rum, or even cider, in the harvest field,

Digitized by Google

or on any other occasion, will be entirely among the things that were; and if those who possess wealth and culture, would set an example in this respect, and abolish from their tables and entertainments, all wines and other liquors, and join heart and hand in the good work, how soon might this demon of intemperance be entirely abolished from our state and nation.

The question may arise, how can a young man without capital or experience get his farm? I reply, work for others; working steadily, honestly and perseveringly, he will soon have the trade, and if he is prudent will save as much money, on the average at this, as at any other business. Let him begin with a small farm in a careful way, not expecting too large profits; perhaps by leasing one for a term of years he can acquire the requsite skill and capital. He should plan eventually to own his farm, for a man is twice the man every way, who owns the land he works upon. A man of my acquaintance, who had lived upon a farm for several years and afterwards bought it, said, after he owned his place, the very stones of which he built his fences seemed lighter than before.

A farmer to succeed should be in earnest, should be *enthusiastic* in his work. In what other business can one excel without enthusiasm? But you may reply, these are hard times, milk is down to the lowest figure; butter, cheese, pork and beef command only the lowest prices,—what is left after the potato bug, the canker worm, the cabbage fly, and the onion worm, is hardly worth marketing. My friends, if half the time which is spent in grumbling were devoted to earnest, cheerful work, times would have been better than they are, before this. Perhaps this may be true of other professions than farming?

A friend and neighbor of mine recently having failed in the mercantile business, went immediately back to his former occupation, took charge of a small schooner, and as it were, began life anew. Being asked if he could make anything, he replied, "Perhaps not, but I shall be all ready and in

Digitized by Google

business when the good times do come." So with us farmers, we cannot *afford* to let our farms go to waste—to let our trees die of neglect, and be eaten up by insects. We should be *up* and doing; the "good times" will come before we are aware of it. More than half of the farmers in this county with whom I have any acquaintance have money in the Savings Bank. Which is the best investment, money in the Five Cent Savings Banks, and Railroad shares, or in beautifying and making comfortable our own homes, in underdraining land, buying manure, reparing fences, and in a thousand ways adding to the value and convenience of our farms, at the same time aiding the unemployed, who stand waiting and asking for our assistance.

But it is not all dollars and cents that we live or should live for. Culture and refinement are equally to be sought after. It is a law of our being, that after the immediate wants of the body are supplied, we turn to the study and enjoyment of the beautiful, both in nature and art. The man who leaves his New England home among the hills for the western prairie, goes for gain; a very commendable object certainly, if it is not carried too far, but as soon as he has made himself a comfortable home, and provided for the wants of his domestic animals, he naturally thinks to beautify his surroundings—planting a group of trees here, or a line of evergreens there, not forgetting the vines, shrubs and flowers, which will do so much to make his home cheerful and his family happy. In older countries this is carried still further, till the parks and gardens of England, France and Germany, are known world-wide, and are held out as examples to us on this side of the Atlantic, oftentimes not so much to our help as discouragement.

Our two largest cities, New York and Philadelphia, have expended immense sums in laying out public parks, and in both instances have copied and imitated nature as far as possible. Beautiful lawns, wooded glens, and primeval trees are preserved in their natural beauty, and the highest style of landscape gardening takes nature for its teacher.

Digitized by Google

Many of the farmers of this county look out of their own windows upon lawns as fair and sloping, as can be found in Fairmount or Central Parks. Their estates contain grottos and glens as lovely and secluded as in either of these, and forest and woodland as varied and more extensive than in any public park in the country.

I know of no way of enjoying these scenes in nature so profitably as by doing as we have in West Newbury (you will excuse me for referring again to my own town by way of illustration). We have a little Botanical Club, some three years of age, which having struggled hard for an existence in its earlier days, now numbers over forty-five members, including many of our most intelligent and valuable citizens. Our two physicians were unwittingly drawn in, not suspecting that the thing was interfering with their means of a livelihood, and we hope at an early day to dispense with the services of both these gentlemen, although we value them highly as friends and townsmen. Our plan is to hold field meetings about once a month, especially during spring and autumn. A pleasant grove in some neighboring town is generally selected as a place of rendezvous, to which the members go by different routes, at their own convenience. A basket picnic at noon is usually followed by a discussion in the most friendly and familiar way, of the various specimens we have gathered, and all return home at an early hour, pleased and delighted with the occasion; and we are unanimously agreed that our minds and bodies are so refreshed and invigorated by these little respites, that we can perform more labor, both mental and physical, than if we had not indulged in them. We meet once a month during winter, at the house of some member, to hear an essay and enjoy a social chat on any subject connected with botany; but the principal enjoyment comes from our rambles in summer through woodland and pasture in search of wild flowers, which is delightful in itself, besides being eminently healthful. We believe thoroughly in out of door exercise for all classes; and that walking, suitably dressed, with a pleasant object in view, is far better for

Digitized by Google

health than riding in fashionable luxurious carriages. We have known several invalid ladies who have entirely recovered their health by this same sort of exercise.

Are there any young ladies here, who are losing the color from their cheek, or the elasticity of their step,—whose parents are contemplating a trip to Florida, to avoid our New England winter, or have sought the mountains in summer,—did you ever try the medicine of walking? Do you know where in all your vicinity to find the earliest Arbutus, Hepatica, or Bloodroot? Do you know in what meadows to look for the Orchids, and every knoll that is congenial to the Columbine and Saxifrage? At this season, can you find the Fringed Gentian? Or can you tell how many varieties of Aster and Golden Rod are within sight of your homes?

Are there any professional gentlemen here, or those of sedentary habits, who are troubled with dyspepsia, and are looking forward to a longer summer vacation as their only hope? Do you know all the species and varieties of trees and shrubs within five miles of your doors? Or have you studied the rocks and minerals which compose these hills, and form these valleys? Probably none of us realize and appreciate as we should the beauty and grandeur of these scenes around us. Bayard Taylor, after having travelled over all Europe, when standing on the top of Pow-wow Hill in Salisbury, is said to have remarked that he never before had seen anything so beautiful. Why need any of us go abroad in search of beautiful scenery when nature has done so much for us at our very doors? Do you in this section fully appreciate your lovely Merrimac, with its tributaries, the Spicket and Shawsheen; those hills of Andover—Boxford with her twenty ponds, Wenham and Essex with their deep damp woods,—Cape Ann with its unsurpassed drives, its variety of ocean woodland and villa; the shore towns with their seventy-five miles of sea coast? All these form a scene of beauty and loveliness nowhere excelled, if equalled, in this country or the world.

Farmers of Essex County: I congratulate you upon this

Digitized by Google

the return of our annual festive occasion. This beautiful day—this large assemblage of friends and neighbors—the fine display of domestic animals, and the unusually rich one of fruits and flowers in yonder hall, are all auspicious omens. Let us then together take courage for the future. Let us be *enthusiastic* in our work, making the most of our circumstances,—ever ready to stand firmly for the right, for morality, for temperance, for good and wholesome laws,—not being deceived by the promises of politicians and demagogues; then shall our future be even more prosperous than the past, and we be proverbially the strength and hope of the nation.

Digitized by Google

CATTLE SHOW AND FAIR.

The Show was held at Lawrence, Sept. 24th and 25th, 1878. It was very largely attended on both days. The show of Stock was on the Essex Company's grounds, near the Merrimac River. The exhibition of Fruit, Domestic Manufactures, etc., at City Hall, and Vegetables in a tent adjoining.

The entries in the several departments were as follows:—

STOCK, ETC.

Fat Cattle	1 Entry.
Bulls	12 Entries.
Milch Cows	13 "
Herds of Milch Cows	2 "
Heifers	60 "
Calves	8 "
Working Oxen	10 "
Steers	3 "
Town Teams	2 "
Stallions	11 "
Brood Mares	6 "
Family Horses	10 "
Farm and Draft Horses	13 "
Pairs of Draft Horses	7 "
Colts	25 "
Swine	13 "
Sheep	3 "
Poultry	49 Coops.
Ploughing, single teams	1 Entry.
" double "	7 Entries.

Digitized by Google

Ploughing, Horse team ..... 9 Entries.
" 3 or more Horses.... 3 "
" Swivel Plough..... 2 "
Agricultural Implements.....80 articles.
Carriages.....5 entries.

There were on exhibition:—

550 plates apples.
287 plates pears.
89 plates peaches, grapes, etc.
240 lots of vegetables.
12 parcels butter and cheese.
28 parcels bread, cake, etc.
25 traces corn.
4 entries shoes.
86 entries counterpanes and rugs.
360 entries fancy work, etc.
15 entries children's work.

The annual meeting of the Society was held at the Court House, and was fully attended. Benj. P. Ware, the President, in the Chair. The officers chosen, as will appear in another place in this volume, were a president, four vice presidents, and a secretary, the trustees having been previously chosen by the members in their several towns, according to an amendment to the Constitution of the Society, adopted last year.

An unusual number of members have died during the year. Among those who have occupied prominent positions in the government of the society may be mentioned Hons. Allen W. Dodge of Hamilton, and Daniel H. Stickney of Groveland, Dr. Joseph Kittredge of North Andover, and Samuel C. Pitman of Swampscott.

Among other members—Benj. Haskell, M. D., Eben Pool of Rockport, the latter having been a member for over fifty years, and Samuel Preston of Danvers.

Digitized by Google

Rev. O. S. Butler, of Georgetown, presented resolutions on the death and character of Allen W. Dodge and D. H. Stickney, with the following remarks :—

Mr. President :—It has been our custom since the earliest history of our society, at its annual meeting, to mark with suitable resolve and reference the decease of our official members. During the past year, two of our official members have died, the Hon. Allen W. Dodge and the Hon. D. H. Stickney. It seems to me eminently proper that we should stop a moment at this juncture of our business and record with tearful interest our just estimate of their lives and characters.

We have come up to our annual feast; we shall take each other by the hand; we shall look into the faces of these stalwart men; we shall walk among the flocks and herds of our noble animals; we shall go into the hall across the way and gaze with unmingled delight upon fruit and flowers, as well as the handiwork of man and maiden. But the noble, manly form, the genial, glowing countenance, the words of wisdom and sparkling wit, of our old friend and co-laborer, will not be seen or heard among the living, for Allen W. Dodge is no more here.

And we shall nowhere meet our familiar and loving friend, D. H. Stickney. That tall and graceful form is low in the dust. No, my fellow laborers, they are not here; they have entered upon a higher and nobler life, and are now engaged in the activities of the great beyond.

At the request of the officers of the society, I have reluctantly consented to prepare and present to your attention the following resolutions, as expressive of our regard and esteem for these our brethren, whose loss we greatly deplore :—

The Essex Agricultural Society has learned with profound sorrow of the decease of two of its official members, during the past year, the Hon. Allen W. Dodge and the Hon. D. H. Stickney. In view of this sad bereavement it is therefore resolved :—

First, That we recognize the goodness of our Heavenly Father in giving unto us such honorable and useful lives, as well as we do His hand in that mysterious providence that has removed them from our midst.

Second, That we recognize and record our highest appreciation of the service rendered to our Society in particular, and the cause of

Digitized by Google

agriculture in general, in the county and state, both in their private membership of the society, and in their official capacity so long and so faithfully filled,—Mr. Dodge having served the Society as Trustee, Orator, Secretary and President, and Mr. Stickney as Trustee and Vice-President.

Third, That we recognize with unmingled pleasure, their ardent love of agriculture, horticulture and floriculture, in all their refining and elevating influences, that invite our admiration and excite our emulation.

Fourth, That as man is more than his accidents, so the purity of their lives and the true nobility of their natures, have impressed us with their worth while living, and of our irreparable loss in their death.

Fifth, That we tender to their bereaved families our warmest sympathies, and commend them to the mercy of our God, and to the hopes and relationship of the world to come.

Sixth, That a copy of these resolutions be placed on the records of the society, and a copy sent to the families of the deceased members.

After presenting the above resolutions Mr. Butler proceeded to say :—

Mr. Dodge was my friend, long cherished and dearly beloved, the first to turn my attention and interest towards this society, in whose prosperity and success he took so great an interest. For from his earliest years he showed a fondness for agriculture, horticulture and floriculture. His fondness for these pursuits grew with his growth and strengthened with his strength, so that when quite a young man he became a member of this then young but growing society, which relation continued until his death.

Among the early compeers and fellow-laborers were the Hon. Daniel P. King, Hon. James H. Duncan, Hon. John W. Proctor, Hon. Joseph Howe, Dr. Andrew Nichols, Gen. William Sutton, and Gen. Josiah Newhall.

Such was his interest and activity in the cause of agriculture, that as early as 1842 he was invited to deliver the annual address before the society, which he did, to their delight and satisfaction. The subject of the address was "The cultivation of the apple," a subject upon which he was thoroughly conversant at that time, and at the time of his death there was no man in the county so well informed in regard to the

Digitized by Google

different varieties of apples, their methods of culture, their adaptation to soil and climate, and everything that pertained to the cultivation of apples.

Mr. Dodge continued to manifest his interest for the society to such an extent that in 1844 he was chosen Secretary, with very great unanimity, and continued to serve in that capacity for seventeen years, or until 1861, when he was elected President, in which capacity he served us for two years, when he declined a re-election, and for the remainder of his life he sustained the relation of Honorary Trustee. But Mr. Dodge was more than an agriculturist, he was a *man*, a true nobleman by nature, and one of the most thoroughly cultivated men in our society, if not in the state.

His character as a friend and neighbor, as a man of the strictest integrity in all of his official relations, as a devout and faithful christian, has been most justly and worthily embalmed in the memories of the public, whose servant he was, and I will not repeat them here. Peace to his ashes and honor to his memory.

Of Mr. Stickney it may be said that he was very active and useful to our society from the first of his membership, devoting his time and money to the best interests of the society. Although not a large farmer, his knowledge of the science was evinced by the productiveness of his land, and the variety of his production of the grape and the pear. He was for several years one of our Trustees, and in interest or activity was not excelled by any other member; in many respects he was harder worked and better known than any other member of our society. At the time of his decease he was one of our Vice-Presidents.

Mr. Stickney was one of the most companionable of men. warm in his attachments, zealous in his defence of the interests of his friends, wise in council, persistent in his efforts to secure his ends, of necessity his life was a success. Beginning life in comparative obscurity, he, by his own unaided efforts, became the peer of his superiors, until he sat beside Governors and Councillors, and was consulted by some of the foremost men of the nation.

When he was unexpectedly cut off in the prime and strength of his manhood, it was proper that business and pleasure should cease in the village where he was born, on the day of his funeral, and that the whole community should

Digitized by Google

join in the mournful services and procession, as we lifted the snowy covering from the white-robed earth, and laid our dear friend among the dust of his kindred, on the sloping banks of the beautiful Merrimac he loved so well.

Digitized by Google

REPORTS OF COMMITTEES, &c.

FAT CATTLE.

The Committee on Fat Cattle have attended to their duty, and report that but one pair was entered, and that by Chas. A. Butterfield of North Andover, and they award to him the second premium of $10.

The Committee were disappointed in not finding more cattle entered for premiums, as they are fully aware that there are many fat cattle in the county well worthy of a premium.

Jas. P. King, John C. Gage, A. H. Gould, R. T. Jaques, H. G. Kimball—*Committee.*

BULLS.

The Committee on Bulls submit the following award of premiums:—

Wm. A. Russell, Lawrence, Holstein Bull, with five Calves of his stock, 1st premium $15.

Chas. S. Bradley, West Newbury, Devon Bull, 2d premium, $6.

Chas. S. Bradley, West Newbury, Short Horn do, 2d premium, $4.

Wm. A. Russell, Lawrence, Holstein under 2 years, 1st premium, $6.

Chas. Perley, Boxford, Ayrshire Bull, 1st premium, $10.

Doane Cogswell, Bradford, Ayrshire Bull, 2d premium, $6.

J. D. W. French, North Andover, Ayrshire under 2 years, 1st premium, $6.

Digitized by Google

S. F. Newman, Newbury, Ayrshire under 2 years, 2d premium, $4.

Geo. W. Russell, Lawrence, Jersey under 2 years, 1st premium, $6.

MILCH COWS.

The Committee on Milch Cows respectfully submit the following report:—

The number of entries in this department of stock was not large, but the animals shown were very fine. Five competitors entered their stock for premium, and their statements are herewith submitted. Mr. French, Mr. Russell, and Mr. Thurlow, give an interesting statement of the amount of milk produced by their cows, from an actual daily record kept by them. It is hardly fair to place the small compact Ayrshires of Mr. French in competition with the large square built Holsteins of Mr. Russell, but the premium offered for the best milch cow of any breed, required this to be done. Undoubtedly the Holsteins exhibited produced the largest amount of milk, and the Ayrshires are more cheaply kept. To be equally profitable the Holsteins ought to produce the most. The relative value of large and small cows for milking purposes is a matter which has been much discussed, but after all must be decided by every farmer for himself, and must depend almost entirely on his means of feeding. The Committee recommend the following awards:—

Special premium $25, to Wm. A. Russell of Lawrence.

Best Milch Cow.—1st premium $12, to Wm. A. Russell, of Lawrence; 2d premium $9, to J. D. W. French, No. Andover.

Ayrshires.—1st premium $12, to J. D. W. French, No. Andover; 2d premium $6, to J. D. W. French, No. Andover.

Jerseys.—1st premium $12, Chas. O. Cummings, Andover.

Holsteins.—1st premium $12, to Wm. A. Russell, of Lawrence; 2d premium $6, to Wm. A. Russell, of Lawrence.

Digitized by Google

Grades.—1st premium $12, to David W. Noyes of Methuen; 2d premium $6, to James E. Thurlow of Methuen.

For the Committee,

JOSEPH S. HOWE, *Chairman.*

STATEMENTS OF WM. A. RUSSELL.

To the Committee on Milch Cows:—

I enter for the special premium of $25, cow Maid Marion, 181. Imported. Calved in 1872. Recorded in the "Holstein Record," published by the Holstein Breeders' Association.

Her milk record for 3 years.

Year.	No. days in Milk.	No. lbs.	Av. per day.
1875–76	421	11,990	28.48
1876–77	304	9,375	30.83
1877–78	304	9,560	31.38

She dropped a c. c. Jan. 28, 1875; again, b. c. July 8, 1876, and again a c. c. Sept. 17, 1877. Is due to calve Oct. 10, 1878.

For account of treatment, food, etc., see statement in regard to Herd of Milch Cows.

I enter for the best Milch Cow, Lady Andover, 16. Calved in 1869. Bred by the exhibitor. Sire, Zuider Zee, 2d, (57). Imported. Dam, Midwoud, 4 (26), by Hollander (19). Grandam, Lady Midwoud (17). Imported. Recorded in the "Holstein Record," published by the Holstein Breeders' Association.

Her milk record for 2 years.

Year.	No. days in Milk.	No. lbs.	Av. per day.
1876–77	273	9,856	36.11
1877–78	334	10,159	30.41

is still in milk.

She dropped a c. c., Sept. 14, 1876, and again a b. c., Oct. 1, 1877; is due to calve, Nov. 19, 1878.

For account of treatment, food, etc., see statement in regard to Herd of Milch Cows.

Digitized by Google

I enter for premium for thoroughbred Holsteins, four years old and upward, Lavinia, 168. Calved in 1869, and Alemaria, 75. Calved in 1872.

Both these cows were imported, and are recorded in the "Holstein Record," published by the Holstein Breeders' Association.

Lavinia dropped her last calf March 6, 1878, and is due to calve again Feb. 4, 1879.

For the first ten days in April she gave 560 lbs. of milk, an average of 56 lbs. per day. For the last ten days in August she gave 355 lbs., an average of 35 1-2 lbs. per day. She has been dry but two weeks in four years, and has had a calf every year.

STATEMENT OF J. D. W. FRENCH.

To the Committee on Milch Cows:—

I enter for special premium of $25 for best milch cow of any age or breed, my Ayrshire cow "Roxanna."

Milk Record.

Name.	A. R.	No. of days in milk.				Yield in lbs.			
		1874	1875	1876	1877	1874	1875	1876	1877
Roxanna (Calved 1870.)	1816	360	300	335	256	8183	7431	6785	5535

The above record is for 4 years. Roxanna dropped her last calf April 30, 1878. Her yield since, for 123 days, has been 4173 lbs. Average per day 33.9 lbs. (nearly 34 lbs.). The Committee will observe that Roxanna is a small cow, even for an Ayrshire. That is, below the average size.

I enter for premium for best Milch Cow of any breed, with evidence as to quantity of milk, 1st premium $12, 2d premium $9, my Ayrshire cow, Julia, 2578, A. R. Calved May, 1872. Milk record begins in April, and runs to Sept. 1, 140 days. Total yield 4062 lbs. Average per day, 29 lbs.

Digitized by Google

Dropped her last calf March, 1878. Her dam is Susan, 1875. Imported, A. R. Her Sire is Conqueror, 1574. Imported, A. R.

I enter for premiums for best Ayrshire cows, 4 years old and upward, premiums $12 and $6, my Ayrshire cows, Nina Lyman, 4611, A. R.; calved April 15, 1874; Dam, Nina 4th, 1034, A. R., Sire, Lochiel, 243, A. R.; and Privet, 3107, A. R.; Calved May 11, 1874; Dam, Primrose, 711, A. R., Sire, Fitz James, 550, A. R.

Nina L. dropped her last calf Feb. 15, 1878. Her milk record begins Feb. 17 and runs to Sept. 1, 196 days. Total yield 5105 lbs. Average per day, 26 lbs. Privet, during the year 1877, in 329 days yielded 4755 lbs. Dropped her last calf Aug. 27. Her yield for 2 weeks since has been 436 lbs. Average per day, 31.1 lbs.

The milk is weighed morning and night of each day throughout the whole year, so that the amounts given are as accurate as it is possible to make them.

All my animals entered for premiums are recorded in the Ayrshire Record (A. R.), published by the Ayrshire Breeders' Association, and all trace directly to importation from Scotland.

Feed.—In the summer season, after about August 1, the cows in milk have received, in addition to pasturage, fodder corn or grass, but *no grain*. In winter, 10 quarts of Mangolds, 2 quarts meal (Indian), besides the usual rations of hay have been fed to each cow.

J. D. W. French.

STATEMENT OF JAMES E. THURLOW.

To the Committee on Milch Cows:—

Number of quarts of milk given by cow Nelly, belonging to James E. Thurlow, between the date of Oct 9, 1877, and Sept 23, 1878, dropping her calf Oct, 9, 1877:—

Oct. 9 to Nov. 1,	359 1-2 qts.	average	15 29-46
November	516 "	"	17 5-6

Digitized by Google

December,	428	qts.	average 13 5-6
January,	409	"	" 13 6-31
February,	357	"	" 12 3-4
March,	387 1-2	"	" 12 1-2
April,	332	"	" 11 1-5
May,	360 1-2	"	" 11 2-3
June,	351 1-2	"	" 11 2-3
July,	336	"	" 10 5-6
August,	298 1-2	"	" 9 2-3
Sept. to 23d,	166 1-2	"	" 7 1-2
Total,	4302	Average,	12 101-175

The feed of the same cow for the winter season was dried corn fodder, Hungarian and English hay of equal parts, from 1-2 to 3-4 bushels brewery grain, 2 quarts meal, 1-2 peck potatoes; the summer season being 1-2 bushel brewery grains, one quart of meal, and pasture, per day. She is to calve Dec. 28, 1878. She also the year before calved Oct. 10. From Oct. 24 to Nov. 1, gave 147 1-2 qts. Average 21 1-15 per day.

JAMES E. THURLOW.

Methuen, Sept. 23, 1878.

STATEMENT OF D. W. NOYES.

To the Committee on Milch Cows:—

This Milch cow, entered by David W. Noyes, Methuen, gives 20 quarts of milk per day. Her feed is pasture, corn fodder, one peck shorts, and three quarts of meal, per day.

D. W. NOYES.

HERDS OF MILCH COWS.

Committee on Herds of Milch Cows report as follows:—

1st premium to Charles Perley, of Boxford, $18.

2d premium to William A. Russell, of Lawrence, $12.

For the Committee,

JOHN L. SHOREY, *Chairman.*

Digitized by Google

STATEMENT OF CHARLES PERLEY.

To the Committee on Herd of Milch Cows:—

I enter for premium, for best herd of Milch cows, my Ayrshire cows,—Madge Day, 4038, calved March 5, 1878. Rosa McDonald, 2d, 5053, Feb. 15, 1878. Rosa McDonald, 3d, 5056, Dec. 12, 1877. Milly Day, 5049, June 10, 1878. Flora Frolic, 5056, March 10, 1878.

These cows were kept through the winter on meadow hay, straw and corn fodder, with about six quarts of roots to each cow per day. This was their feed until March, then they had good English hay, and those that had calves had each about two quarts of meal per day. About the 10th of May they were turned out to pasture, and have had nothing except what they got in the pasture from that time.

The Record of their Milk.

Madge Day, due to calve March 8, 1879.

April.....	840 lbs.	July.....	938 lbs.
May.....	871 "	August.....	962 "
June.....	969 "	September...	624 "

Rosa McDonald, 2d, due to calve February 15, 1879.

March.....	496 lbs.	June.....	560 lbs.
April.....	515 "	July.....	575 "
May.....	520 "	August.....	558 "

Rosa McDonald, 3d, due to calve December 14, 1878.

January	465 lbs.	May	600 lbs.
February.....	470 "	June.....	675 "
March	500 "	July	650 "
April.....	540 "		

Milly Day.

August.....	826 lbs.	Sept., 21 dys.	546 lbs.

Digitized by Google

Flora Frolic, due to calve May 16, 1879.

May.....620 lbs.	August.....720 lbs.
June.....660 "	September....575 "
July.....672 "	

CHARLES PERLEY.

West Boxford, Sept. 24, 1878.

STATEMENT OF WM. A. RUSSELL.

To the Committee on Herd of Milch Cows:—

I enter for premium for best herd of Milch cows, my Holsteins: Lady Clifeden, 159; Maid Marion, 181; Lady Andover, 16; Mabit, 178; Lady Clay, 158; and Cathrena, 105.

These animals are all recorded in the "Holstein Record," published by the Holstein Breeders' Association. They were all imported or bred by the exhibitor. The milk of each cow has been carefully weighed every milking, the cows being milked three times a day through the heaviest flow.

The milking record for Lady Clifeden and Maid Marion for 3 years and Lady Andover for 2 years.

Name, No., Age.	Years.	No. days in Milk.	No lbs.	Av. per day.
Lady Clifeden, 159,	1875-76	362	16,274	44.95
Calved in 1868.	1876-77	282	12,243	43.60
	1877-78	396	13,327	33.40
Maid Marion, 181.	1875-76	421	11,990	28.48
Calved in 1872.	1876-77	304	9,375	30.83
	1877-78	304	9,560	31.38
Lady Andover, 16.	1876-77	273	9,856	36-11
Calved in 1869.	1877-78	334	10,159	30.41

The record for Mabit, Cathrena, and Lady Clay, since dropping last calf, to Sept. 1st.

Mabit dropped last calf Sept. 14, 1877; is due Sept. 25, 1878; number of days in milk, 318; number of pounds, 8,973; average, 28.20.

Lady Clay dropped last calf May 10, 1878; is due June 10, 1879; number of days in milk, 101; number of pounds, 4,785; average, 43.5

Cathrena dropped last calf March 24, 1878; is due March

Digitized by Google

1, 1879; number of days in milk, 153; number of pounds, 6,325; average, 41.34.

Lady Clifeden dropped a c. c. Feb. 1, 1875, again a c. c. May 8, 1876, and again a c. c. April 8, 1877; is due Oct. 10, 1878. Maid Marion dropped a c. c. Jan. 28, 1875, again a b. c. July 8, 1876, and again a c. c. Sept. 17, 1877; is due Oct. 13, 1878. Lady Andover dropped a c. c. Sept. 14, 1876, and again a b. c. Oct. 1, 1877; is due Nov. 19. 1878.

Summer Treatment.—From the last of May to the first of November, milking begins at 5 A. M. and 6.30 P. M., and with new milch cows giving a heavy flow, I make a practice of milking three times a day. The food during this time is pasture, with two quarts of meal (corn ground with cob), and after the first of August a feed of fodder corn morning and night.

Winter Treatment.—From the first of November to the last of May, milking begins at 5 A. M. and 6 P. M.; after milking in the morning, the cows in milk are given two quarts of meal and two quarts of shorts; after they have eaten that, they are given a feed of good hay; after eating the hay they are watered. They have been carded, cleaned and bedded meanwhile. At noon they are given the same quantity of grain, excepting the heifers with first calf, which have grain but once a day; after eating the grain they are given a feed of corn fodder, cut up and mixed with hay. Watered at 4 o'clock. After milking at night they are given a feed of mangolds and turnips, or mangolds alone. After eating the roots they are given a feed of corn fodder; they are then left for the night.

WM. A. RUSSELL,
by J. C. Poor.

HEIFERS.

The Committee on Heifers report the following premiums:

Digitized by Google

Chas. Perley, Boxford, Thoroughbred Ayrshires in milk, 1st premium, $12.

J. D. W. French, North Andover, do, 2d premium, $6.

Frank J. Bradley, Methuen, grade do do, 1st premium, $12.

G. S. Phippen, Methuen, do do, 2d premium, $6.

J. D. W. French, North Andover, Thoroughbred Ayrshire that had never calved, 1st premium, $6.

Chas. Perley, Boxford do do, 2d premium, $4.

Wm. A. Russell, Lawrence, Holstein do do, 1st premium, $6.

C. S. Bradley, Methuen, Durham do do, 1st premium, $6.

C. S. Bradley, Methuen, Devon do do, 1st premium, $6.

S. F. Newman, Newbury, grade do do, 1st premium, $6.

M. C. Andrews, Andover, do do, 2d premium, $4.

Chas. Perley, Boxford, Heifer Calves, 1st premium, $5.

S. F. Newman, Newbury, do do, 2d premium, $3.

C. H. Ordway, J. N. Rolfe, J. B. Spiller—*Committee.*

WORKING OXEN AND STEERS.

Your Committee tested the drawing of Oxen and Steers entered for premium, all except Chas. Hazeltine's of Bradford, and made the following awards :—

Oxen.—First premium, Jos. H. Reynolds; second premium, A. M. Bodwell; third premium, G. F. Mason.

Steers.—First premium, B. H. Farnum; second premium, R. S. Bray.

Your Committee allowed Mr. Poor, foreman of W. A. Russell's farm, to draw his Holstein bulls, 4 and 5 years old. They were hitched to one of the ox wagons containing 4,400 pounds, to which were hitched two other wagons, loaded, one with 3,000 and the other with 4,000 pounds, making a total of 11,900 pounds, besides 75 persons, averaging 125 pounds

Digitized by Google

each; and your Committee would recommend that in future a special premium be offered for Working Bulls.

Geo. W. Russell, Geo. C. Foster, T. H. Balch, James Nason, Joshua N. Kent—*Committee.*

TOWN TEAMS.

The Committee award to the farmers of the town of North Andover, for their team of eighteen yokes oxen, 1st premium, $30.

For Horse team, consisting of seven pairs of horses, 1st premium. $30.

James T. Johnson, *Chairman.*

STEERS.

The exhibition of the well matched and thoroughly broken yearling Hereford steers of Master Byron Farnum, of North Andover, was one of the features of the show, and reflected great credit upon their youthful owner and trainer. We unanimously award him the first premium of $5. Benny and Ralph Farnum, also of North Andover, entered one pair yearlings and one pair steer calves. We award them the second premium of $4 on their yearlings, and recommend that a gratuity of $3 be given to them on their calves. These steer calves were broken to the yoke, were nicely matched, and, in the opinion of the Committee, were well worthy of a premium, and it is to them a matter of regret that no premium was placed at their disposal.

"Experience is a hard master, but a good teacher." The farmers of Essex County, after passing through a few years of unexampled adversity, are becoming apt scholars, and it is a matter of congratulation that we are fast realizing the fact that the reckless and spendthrift style of the "flush times" is one of the things of the past—that we recognize we are now

Digitized by Google

in the midst of an economic era, and consequently must raise and produce upon our farms that which we consume. Heretofore Maine and New Hampshire have furnished almost entirely our working oxen. There should be a stop put to this. It is our belief that Essex County farmers can and *should raise their own oxen.* The Farnum lads have demonstrated that this can be done successfully.

We would respectfully suggest to the board of trustees the advisability of offering premiums for steer calves, as it seems to us that the raising of steers should be as carefully fostered by the society as the rearing of heifers.

Perhaps, without going into an extended essay upon the merits of the different breeds, it might be well to offer a few hints, which are suggested by personal experience as well as by observation, concerning steers and their raising. After deciding upon the breed best adapted to your farm, and above all else to your pastures—for I should as soon think of stocking a milk farm with a herd of Brittany cows, as to raise Durham or Dutch steers on the poor pastures to be found in some parts of Essex County—use your best judgment in selecting a thorough bred bull, as near your ideal of what a perfect bull in shape and form should be, as possible. All breeders agree that the blood of the bull is one of the most essential features of breeding, for the strong-blooded sire almost invariably transmits his leading characteristics to his progeny; frequently several generations are stamped and marked by some strong-blooded ancestor. When purity of blood is one of the main objects of breeding, one should be very careful that the cow had never been with calf by a bull of another breed. In selecting your calves, do not, as is often the case, let the fancy price offered by some butcher bias and warp your judgment. Make it a rule to sell the poorest. *Always raise the best*, and then good feed, kind treatment, and the boys will do the rest.

Horace F. Longfellow, Joshua N. Kent, Dudley Bradstreet, Abel Stickney—*Committee.*

Digitized by Google

STALLIONS.

The Committee on Stallions report the following awards :—

G. W. Russell, Lawrence, for Stallion "Plucky," with 5 colts of his stock, premium $25.

J. G. McAllister, Lawrence, Stallion 4 years old, 1st premium, $15.

Chas. S. Clark, Salem, do do, 2d premium, $10.

H. M. George, Saugus, Stallion 3 years old, 1st premium, $10.

Daniel Tenney, Newbury, do do, 2d premium, $6.

A. B. Woodis, *for Committee.*

BROOD MARES.

The Committee on Brood Mares have attended to their duties and report as follows :—

There were five entries of Brood Mares with their foals by their side. After a very careful examination of these animals, your Committee awarded premiums as follows :

B. G. Gutterson, Methuen, Messenger Mare, 10 years old, 1st premium, $15.

P. R. Gutterson, Methuen, Morrill Mare, 10 years old, 2d premium, $10.

Henry Small, Lawrence (no pedigree given), 3d premium, $8.

There were two other entries. One by D. B. Webster of Lawrence, but your Committee received no statement, written or verbal, and as the mare was without a keeper, we were unable to judge of her merits.

The other entry was by J. T. Griffin, North Andover. The age and size of his mare would not entitle her to a premium, but there were points of merit both in the dam and her foal that would entitle them to favorable notice.

M. S. Jenkins, O. S. Butler—*Committee.*

Digitized by Google

FAMILY HORSES.

Your Committee, every member being present, attended to the duty assigned them, on the afternoon of the 24th of September, 1878, and made the following awards :—

First premium, $15, to C. D. Hunking, Haverhill, for his black horse, 7 years old, weight 950 pounds, and shown in a top buggy.

Second premium, $10, to Samuel G. Bean, Andover, for his black horse, 11 years old, weight 1100 pounds, and shown in a top buggy.

Third premium, $8, to George F. Mason, Andover, for his black horse, 5 years old, weight 1245 pounds, and shown in a Concord wagon.

The other entries were :—

Paul T. Winkley, Newbury, gray horse, 9 years old, weight, 1050 pounds, and shown in a Concord wagon.

George W. Bray, Newbury. Withdrawn.

Charles Perley, Boxford, bay mare, 18 years old, weight 1000 pounds, and shown in Concord wagon.

D. G. Todd, Rowley, light bay horse, 5 years old, weight 1125 pounds, and shown in Concord wagon.

G. S. Phippen, Methuen, horse, 5 years old, weight 1000 pounds.

Levi Emery, Lawrence, two horses; the nigh horse, 10 years old, weight 1120 pounds; the off horse, 7 years old, weight 1140 pounds; and shown in double harness on a farm wagon.

David Smith, Newburyport, chestnut horse, 7 years old, weight 1070 pounds, and shown in a carryall.

Immediately after meeting, the Committee selected a stretch of ground where they could examine the animals and be able to see them move. The Marshal, who was assigned to duty with the Committee, was at once directed to order the horses

Digitized by Google

to be brought out in harness. Some of them were ready, so that work was begun without any unnecessary delay. An inquisitive crowd of lookers-on caused some inconvenience to your Committee, and it was impossible for the Marshal or the Committee to keep them back to a proper distance. A space properly roped off and guarded would have been of much assistance, but that is not always possible.

The unevenness of the ground was an obstacle to seeing the horses move to the best advantage, but it was as good as we could obtain, and all were sent over the same ground.

After having carefully examined all the horses, and taken the necessary notes, the Committee withdrew to a part of the field where they could be by themselves, and soon gave their written votes upon the first premium, and it was awarded as above stated.

The vote for the second resulted in a tie at the first ballot, but the next decided the award after some discussion. Then after two more votes, with discussion between them, the third premium was decided.

All the horses were first examined for marks of unsoundness. Splints were found on three of the rejected animals; some of these had interfering marks, and one had a peculiar action of the off hip.

Then each was driven at a good road gait, so that his action could be seen, and how readily he obeyed the rein and voice.

The drivers were also requested to stop their horses, lay down the reins, get out and walk slowly around their team, get into their vehicle again, then take up the reins, and after that start their horses.

We were much pleased with Mr. Winkley's horse, which had a fine gait, was perfectly gentle, powerful, a good size for general use, was in the prime of life, and had many marks of being an extremely good animal. Unfortunately a very slight splint was cause for his receiving no premium.

Mr. Todd's five year old seemed a pattern of a useful

Digitized by Google

horse, which farmers would do well to copy. He appeared to be perfectly sound, capable of doing any work well, either on the road or in the field. The objection to him was that he still had some of the movements of a colt. He was thoroughly gentle, and was said to possess much endurance in travelling long distances.

It should be stated that the horse which took the second premium, was a stallion until a year ago, when he was cut at 10 years old.

Respectfully, for the Committee,

FRANCIS H. APPLETON, *Chairman.*

FARM AND DRAFT HORSES.

The Committee on Farm and Draft Horses, submit the following awards:—

W. A. Dane, Hamilton, 1st premium, $15; W. H. Butters, Methuen, 2d premium, $12; Joshua N. Kent, Newbury, 3d premium, $10; D. L. Goodrich, West Newbury, 4th premium, $6.

T. T. Paine, D. T. Morrison, J. Longfellow, D. Bradstreet—*Committee.*

PAIRS OF DRAFT HORSES.

The Committee report that nine pairs were entered; eight appeared on the ground; all did their work well, considering the space allowed them by the crowd, which rather interfered with their performance.

Awards.—Oliver Stevens, No. Andover, 1st premium, $15; George W. Bray, Newbury, 2d premium, $10.

Amos Poor, Hermon Phelps, David Knowlton. George S. Hawkes, Bowman Viles—*Committee.*

Digitized by Google

COLTS—FIRST CLASS.

The Committee on Colts of the First Class have awarded the premiums as follows:—

Four Years Old—Henry Riley, North Andover, first premium, $12; George E. Davis, North Andover, second premium, $8; S. P. Bradley, Haverhill, third premium, $5.

Three Years Old—Goodwin Brothers, Lawrence, first premium, $10; George W. Russell, Lawrence, second premium, $5.

Sherman Nelson, Nathaniel Gage, Thomas K. Leach—*Committee.*

COLTS—SECOND CLASS.

The Committee award as follows:—

Two Years Old—S. M. Titcomb, West Newbury, first premium, $8; Geo. B. Bradley, Methuen, second premium, $5.

Yearlings—Peter Holt, Andover, first premium, $6; H. M. George, Saugus, second premium, $4.

GEO. W. DUNCAN, *for the Committee.*

SWINE.

The Committee on Swine, report:—

Small Bone Hogs.—Breeding Sow: First premium, J. D. W. French, North Andover, $10; second premium, B. H. Farnham, North Andover, $6. Boar: First premium, Charles Perley, Boxford, $10; second premium, J. D. W. French, North Andover, $6.

Large Bone Hogs.—Breeding Sow: First premium, Albert Berry, North Andover, $10; second premium, Daniel Carlton, North Andover, $6. Weaned Pigs: First premium, Albert Berry, North Andover, $10; second premium, J. F.

Digitized by Google

Colqorhoun, Lawrence, $6. Boar: Second premium, Levi Emery, Lawrence, $6.

C. C. BLUNT, *Chairman.*

STATEMENT OF J. D. W. FRENCH.

To the Committee on Swine:—

I enter for premium in second class (small bone), my small Yorkshire Boar, "Weston," farrowed May 9, 1877; Sire, Middlesex; Dam, Cherry, by Duke of Yorkshire, imported. 2d Dam, Minnie, bred by Jacob Dove, England.

I enter for premium in first class, for best Breeding Sow, my Grade Chester Sow, with 9 pigs by my small Yorkshire Boar. These pigs were farrowed Sept. 14.

J. D. W. FRENCH.

SHEEP.

The awards of the Committee are as follows:—

Charles Perley, Boxford, for Buck, first premium, $8.

Chas. Hazelton, Bradford, flock Sheep and 2 years old Buck, first premium, $10.

Jasper Rea, James Marsh, E. C. Upton, Albert Kimball—*Committee.*

POULTRY—FIRST CLASS.

Light Brahma Fowls—W. M. Ward, Peabody, first premium, $3; C. L. Beckett, Peabody, second premium, $1.50.

Light Brahma Chicks—C. L. Beckett, Peabody, first premium, $3; W. M. Ward, Peabody, second premium, $1.50.

Turkeys—J. D. W. French, first premium, $2.

Geese—C. W. Hatch, first premium, $2.

Ducks—C. A. Andrew, first premium, $2; C. W. Hatch, second premium, $1.

C. D. Ordway, Daniel Buxton, J. L. Colcord, James Wilson—*Committee.*

Digitized by Google

POULTRY—SECOND CLASS.

The Committee award as follows:—

Plymouth Rock Fowls—S. F. Chase, West Newbury, first premium, $3; L. F. Weston, Danvers, 2d premium, $1.50. Chicks—S. F. Chase, West Newbury, first premium, $3; S. F. Chase, West Newbury, second premium, $1.50.

White Leghorn Fowls—F. J. Bradley, Methuen, first premium, $3. Brown Leghorn—F. J. Bradley, Methuen, second premium, $1.50. Chicks—G. J. Johnson, Rowley, first premium, $3; E. H. Barnard, Andover, second premium, $1.50.

Silver Poland Chicks—Geo. Riley, No. Andover, first premium, $3.

B. B. Red Game Bantam Fowls—E. E. Smith, Haverhill, first premium, $3. Chicks—H. W. Field, North Andover, first premium, $3.

The Committee would, in addition to their report of Award of Premiums, beg leave to submit for your consideration, the following:—

That, as the success of all effort to establish the Fair and Cattle Show of Essex County, in the front rank of county fairs, has been due in the past to the advanced ground taken by the trustees, in offering generous premiums, and adopting new rules in regard to exhibitions, in conformity with the requirements of the times, and as the desideratum of these fairs is the improvement of all agricultural pursuits; and, as the poultry business of the whole country has undergone a very marked change within a period of ten years,—almost destroying the value of the rules laid down by the society, for judging poultry,—your Committee would recommend that a change be made in the manner of Award of Premiums, for the following reasons:—

1st. The breeding of fowls for purity of blood and excellence of points—as is the case in herds of Jersey, Ayrshire, and other cattle,—has become a business of considerable importance, as is illustrated by the very remunerative prices paid for fancy fowls, scoring 90 to 95 points in a possible 100. We shall see, by giving a moment's thought to the subject,

Digitized by Google

that the object of those who exhibit fancy fowls at fairs, is not the direct money value of the premiums obtained, but their far greater value as *descriptive adjectives* in advertising their stock for sale throughout the country. It is, then, not only our duty to ourselves to protect the reputation of the society, as one qualified to confer such premiums, in accordance with the acknowledged standard for judging poultry, in use by all poultry associations; but it becomes a duty, a point of honor, as it were, between man and man, because, perchance, some poultry breeder in a distant State, seeing an advertisement containing the award, buys, and pays a good price for our first premium fowl, expecting that we, as good judges, have made the award as his society have made theirs, in accordance with the said standard. We therefore recommend that the poultry exhibit be divided into two distinct classes, the first class to consist of those bred as fancy fowls, whilst the second class shall be composed of those bred as egg producers.

2d. That the standard of authority for judging poultry be changed from *Halstead* to the "American Standard of Excellence," now in use by all poultry societies.

3d. That the Board of Judges shall be chosen with regard to their special knowledge of the different varieties for which premiums are offered.

4th. That all fowls exhibited shall be entered with the Secretary, and designated only by entry number and variety exhibited, until after the award of premiums.

Recommended—That the second class shall consist of poultry kept for profit from eggs and meat. That this is the direct poultry business it is needless to dispute, as a glance at statistics gives us no chance to gainsay that it is an important farm adjunct. In New York city, in 1870, the sale of eggs amounted to 19,900,700 dozen at a value of $4,928,219.20. In 1873, 31,148,007 dozen, amounting to $6,976,603.25, showing an increase of nearly 50 per cent. in three years. Somebody raised and sold them, and somebody will raise and sell eggs and poultry, thereby increasing the productive industry of the country by a very considerable sum yearly, besides making the old farms look pleasanter to the boys and girls. It might be said here as well as anywhere, that all these little things which tend to make life pleasanter to the boys and girls *on the farm*, should be en-

Digitized by Google

couraged to the extent that they may choose to stay there, rather than to rush to the city to mingle in the great whirl of financial ruin. We therefore believe that it is for the interest of the County of Essex that this society shall so encourage these small endeavors of its patrons and exhibitors, that a spirit of competition may be aroused, that the best manner of feeding, the best variety of fowl, and all the different details of poultry management, may be brought out.

We therefore recommend that special premiums of $5.00 as first and $3.00 as second, shall be offered the exhibitor who shall obtain the greatest results for a given time, from a given number of fowls, a trio of said fowls to be entered for exhibition at the fair, together with a written statement of results obtained, manner of treatment, etc., the same rules of entry to apply as are suggested for fowls of the first class.

We would also suggest that an assistant marshal shall take charge of the arrangement of the different coops of fowls, so that the several varieties may be kept together, thereby lessening the work of the judges, and increasing the effect of the show.

W. H. Allen, *for the Committee.*

PLOUGHING—DOUBLE TEAMS.

The Committee on Ploughing with Double Teams have attended to their duty, and would report the following awards:—

Jaques & Bray, Newbury, first premium, $12; Joseph Goodrich, West Newbury, second premium, $10; Edward Adams, North Andover, third premium, $9; Frank J. Bradley, Methuen, fourth premium, $8.

Sherman Nelson, Nathaniel Gage, David Smith, C. K. Ordway—*Committee.*

PLOUGHING—SINGLE TEAMS.

The Committee on Ploughing, Single Teams, report but two entries; only one appeared on the ground, that of R. T.

Digitized by Google

Jaques, of Newbury, with No. 16 Hussey plough. Mr. Jaques had a team well trained to their business, had a good plough, and knew well how to manage it. He performed his work well, and at a uniform depth of about seven inches, full an inch more than required by the society.

The Committee award to R. T. Jaques, of Newbury, the first premium of $10. Not because he was the only competitor, but because we thought he would have obtained it, if there had been two or three competitors, which the committee regret there were not.

Horace C. Ware, D. F. Harriman, John L. Colcord, John W. Allen—*Committee.*

PLOUGHING WITH HORSES.

The Committee award as follows:—

Paul T. Winkley, Newburyport, first premium, $12; H. M. Goodrich & A. L. Plummer, West Newbury, second premium, $10; A. T. Newhall, Newburyport, third premium, $8; T. O. Wardwell, North Andover, fourth premium, $6; R. S. Bray, Newbury, fifth premium, $4.

Otis F. Putnam, *Chairman.*

PLOUGHING—THREE OR MORE HORSES.

The Committee were unanimous in giving the first premium of $10 to Sidney F. Newman & J. N. Kent, of Newbury; second, $6, to Geo. W. Bray, of Newbury.

Ansel W. Putnam, Wm. B. Reynolds, J. B. Tewksbury, G. S. Phippen—*Committee.*

In addition to the report made in the ploughing field, by the Committee on Ploughing with three or more horses, the Chairman wishes to say, that this being the first time premiums have been offered for ploughing with such teams, the

Digitized by Google

rules by which committee and ploughmen should be guided do not seem to be correct and definite enough to meet the case. One of the rules of the society is, that "only double ox teams shall have drivers." I think it well to adhere strictly to that rule in the future; but as the ploughmen all come expecting to plough with a driver, and with one exception were not prepared to plough at all without a driver, it did not seem best to enforce the rule. Then again, these teams of three or more horses are practically double teams, and should be required to do the work of double teams, but the rules only required them to do the work of single teams, that is, to plough six inches deep, and though all the work was well done, there was none of it good, practical, everyday work, because it was not economical; it is not economy to use a double team and two men to do work that can be as well done with a single team and one man.

The team, driver, ploughman and plough, which took the first premium, each and all of them did as artistic work as I have ever seen. The team, driver and ploughman which took the second prize, seemed to do as good work as the first, but the plough they used was not in condition to make as handsome work as the other. These were both four horse teams. The team with three horses abreast worked well and were well handled, but the ploughman failed to do artistic work in two respects. The first was taking more land than his plough would at all times turn well over to its place, the sod doubling down and leaving cavities which it would take considerable harrowing to fill up. The other respect, of no practical importance except the very important one of good looks, was that he did not straighten the crooks made when cutting out the lands, but continued to plough as crooked as the copy set for him to work by.

Perhaps he thought it best to imitate the copy as exactly as possible; at any rate I can thank him for doing it, for it gives me an opportunity to say that ploughing out the centres of lands after they have been marked out, looks to me like

Digitized by Google

apprentices' work—a master workman can cut out his own lands.

I know of no direction in which a little more knowledge would be of so much practical benefit to the farmers of Essex County, as a little more knowledge of the art of economical ploughing. There are very few farmers in the County who can take a pair of spirited horses, drive the team themselves, and cut out lands, or furrow out with one or two horses, or cultivate their crops, as well without a driver as with one; and yet there are very few farmers in the County, who, if they had a little more practical knowledge of the art of holding and driving at the same time, would not be perfectly independent of drivers for any of their ploughing or cultivating, for they would soon learn what some have already learned, and that is, that they can drive better when holding the plough or cultivator, than any one can drive for them.

I wish to ask if it is not time for our society to begin the work of educating the farmers of the county, so that they can cut our their lands and do all their ploughing and cultivating without a driver.

I wish to ask if it would not be well for the society to offer premiums for the best single furrow ploughed in sod lands? the team and plough to be furnished by the Committee; all competitors to use the same team and plough; and also, if it would not be well to offer premiums for the best three or five furrows with a single horse, as in marking out for potatoes. This work could be done after the ploughing match, if the land was well harrowed.

ANSEL W. PUTNAM, *Chairman.*

PLOUGHING WITH SWIVEL PLOUGH.

The Committee report:—

Wm. A. Russell, Lawrence, first premium $12.

WM. B. CARLTON, *Chairman.*

Digitized by Google

AGRICULTURAL IMPLEMENTS.

The Committee award as follows:—

Whittemore Bros., Boston, best collection of Implements, premium, $15.

Whittemore Bros., Boston, for Grant Hay Cutter, gratuity, $3.

Parker & Gannett, Boston, second best collection of Implements, premium, $10.

E. E. Lummus & Co., Boston, third best collection, $5.

Frank Ayer, Boxford, Ox Yoke, gratuity, $3.

Warren A. Bailey, Andover, Stone Lifter, $3.

Urius Urry, North Andover, Cultivator, $1.

Honorable mention is made of the Richardson Manufacturing Company, of Worcester, New Model Buckeye Mower; also of Whittemore Bros. Champion Cider Mill.

Our attention was particularly drawn in the exhibit of the Messrs. Whittemore Bros., of Boston, to the Oliver's Chilled Ploughs, manufactured at South Bend, Ind., and introduced into New England by this house last November. The metal is the hardest and finest grained of any metal used in ploughs, and the only one perfectly adapted for use in all soils. The plough is of very light draft, easily adjusted, does excellent work, and is very durable, and must come into extensive use as it becomes known. Also well adapted for meadow land; the team walking on the sward. This house also show their Champion Wheel Rake, with patent sled runner teeth, so made that they do not scratch up the ground and dust the hay, a decided improvement over all other steel-tooth rakes. This is very simple in construction and can be easily handled by a boy.

Walter A. Wood's new enclosed gear Mower, was also shown. The well earned reputation of this company being a sufficient guarantee of its excellence both in workmanship and working qualities in the field.

Digitized by Google

The Victor Lever Hay Cutter is a new and simple implement. The knife has a heavy iron handle, which materially decreases the labor of cutting. It must be an extra machine for cutting corn stalks.

The Committee make honorable mention of the large exhibits of Parker & Gannett. Would recommend the attention of farmers to their Nourse new IXL Swivel Ploughs. They claim that to-day it is *the plough* for both side hill and level land, that it is 25 per cent. lighter draft than any other side hill plough.

The Buckeye Mowing Machine has strong claims on the farming community for strength, durability and light draft. They are the Boston agents, having sold in 22 years 6,000, every one giving perfect satisfaction.

We were favorably impressed with the Bay State Horse Rake. It has just won the medal of honor at Paris. It has all the latest improvements.

The Lion Plough is claimed by them to be the best landside plough in use. Besides, they claim to have had all the improved ploughs in the market. They made a worthy exhibit of Root Cutters, Meat Choppers, Prize Blanchard C. C. M. Churn. In fact their exhibit comprises nearly every thing necessary to a well regulated farm.

The Committee would do injustice to the firm of E. E. Lummus & Co., not to mention their fine exhibit, although small in numbers. Our attention was called particularly to the Randall Harrow, so well known, having been many years in the market. It has undergone many improvements since it was first offered to the public, and now they claim for it superiority to any harrow in use.

The Randall Corn Hoe is a new machine. It is claimed by the manufacturers that it will supersede all others, it being made to straddle the row. It is on the same principle as the Randall Harrow.

They also exhibit the New Model Warrior Mower, which is the old Warrior much simplified and reduced in weight, and

Digitized by Google

the King of the Lawn, lawn mower, which is comparatively new in the market. The main features of the machine are its simplicity and cheapness.

There being no opportunity to test the different Mowing Machines in the field, the Committee cannot make as thorough examination of them as they otherwise would like to. We have no doubt that most mowing machines, when new and in good order, will do the work required of them, but the points most desirable to the farmer are simplicity of construction, ease of management, and durability. In our opinion the New Model Buckeye, entered by W. A. Kimball, possesses many desirable points, from the fact that it has stood the test of time, and we can with confidence recommend it to the farmers of Essex County.

Leverett Bradley, George Buchan, John Swinerton, T. K. Leach—*Committee.*

CARRIAGES.

The Committee make the following awards:—

A. J. Henly, Boxford, Two Horse Wagon, gratuity, $2; J. W. Joyce, Lawrence, Wagon, gratuity, $2; J. W. Graham, Lawrence, Wagon, $2; D. E. Gale & Co., Salisbury, Jump Seat Wagon, gratuity, $3; Samuel G. Bean, Andover, Old Sleigh, gratuity, $1.

T. K. Leach, Aaron Sawyer, William Gunnison—*Committee.*

DAIRY.

There were ten specimens of butter presented for premium, the most of which were of superior quality, and it was with some difficulty that the Committee could decide which were entitled to the several premiums. After consid-

Digitized by Google

erable deliberation they concluded to recommend the following premiums:—

John J. Downing, Andover, first premium, $10; Mrs. John Day, Boxford, second premium, $8; S. R. Griffin, Groveland, third premium, $6; E. H. Jenkins, Andover, fourth premium, $4.

There were but two specimens of cheese exhibited for premium, both of which were of superior quality, and the Committee, could they have done so, would gladly have divided the two premiums equally between them. As this could not be done, they would recommend the premiums as follows:—

D. L. Goodrich, West Newbury, first premium, $8; John Lefavor, Danvers, second premium, $5.

The majority of the Committee being ladies, were all present in season, as they usually are on all important occasions, but the Chairman, a gentleman, was not present. After waiting a long time, the writer was requested to aid and assist them, as they were all inexperienced in the business. We readily accepted their invitation, knowing them to be of good judgment and intelligence. It proved rather a pleasant task, good company, and as we were in near proximity to the bread that had been examined by another committee, it was said that the quality of the butter could be better tested when used with bread.

JOSEPH HOW, *for the Committee.*

STATEMENT OF JOHN J. DOWNING.

To the Committee on Dairy:—

The ten pounds of Butter entered for premium, is made in the following manner:—Cream raised by the Cooley system; churned every day in a Davis Oscillating Churn; time, from forty-five minutes to one hour; Butter washed in churn until most of the butter milk is removed, then taken out and balance worked out by hand and salted, use from one-half to

Digitized by Google

one ounce, according to taste of customers; put up in any style to suit customers; delivered twice per week, summer and winter; number of cows now in milk 21, Jerseys and Grades; feed at present, grass and Indian meal, from two quarts to one peck per cow.

STATEMENT OF MRS. JOHN DAY.

To the Committee on Dairy:—

I enter for premium five pounds of September Butter.

This Butter was made from the milk of Ayrshire cows that have had no feed through the season but pasture grass; it was taken from a churning of seventeen pounds, churned within a week; the milk is strained into tin pans—about three quarts in each pan—and set in a clean, cool room in the cellar; it is set on iron bars, instead of shelves, (so there can be free circulation of air around the pans, and the bars are much easier to keep clean than wooden shelves); twenty-four hours after the milk is set the cream is skimmed into tin pails, and the pails are set near ice; as cream is added to the pails each day, it is well stirred. When sufficient cream has been gathered to make fifteen pounds of butter or more, it is churned in a Blanchard churn, the butter is taken from the churn and *all* the butter milk that can possibly be worked out of it is got out then; it is then salted and allowed to stand until the next morning, when it is worked over and made into lumps like the sample I send you. I have made butter by this method for *more than fifty years*, and have never failed to have good, sweet butter.

STATEMENT OF D. L. GOODRICH.

To the Committee on Dairy:—

I present for your examination fifty-two pounds of Cheese. The following is the process of making:—Strain the evening's milk, warm it in the morning and add to the morning's milk, making it about blood warm; then add the rennet, no more than enough to form a curd in twenty or thirty minutes;

Digitized by Google

let it stand about an hour, cut and drain thoroughly, scald with water, chop fine, add one cup of salt to sixteen pounds of curd, and press twenty-four hours.

BREAD AND HONEY.

The bread offered for inspection was nearly all of good quality. In some instances, no statement being given of the manner in which the samples were made, in accordance with the rule of the society, no award could be given. After careful examination and discussion your Committee recommend the following gratuities:—

Mrs. D. B. Fogg, Methuen, $2; Mrs. G. M. Stoddard, Lawrence, $1.50; Mrs. Willard Messer, Lawrence, $1; Miss Mary Kennedy, Lawrence, $1; Mrs. Parker Cross, Methuen, $1; Mrs. N. E. Ladd, Groveland, $1; Mrs. M. A. Bennet, West Andover, $1; Master Harry Tucker, Lawrence, 75 cents; Bertha L. Childs, Lawrence, 75 cents; Alice M. Hunkings, Lawrence, 75 cents; Alice M. Rea, Andover, 75 cents; Mrs. Joseph Poor, Andover, Cream Cakes, 50 cents; Mrs. M. N. Hindish, Cake, 50 cents; Mrs. J. H. Spofford, Lawrence, 50 cents; Mrs. Hannah Lenney, North Andover, 50 cents; Fred Peet, Lawrence, 50 cents.

Mrs. Joseph Howe, Mrs. E. W. Jacobs, Miss Lucy A. Blunt, Nathaniel Lambert, G. W. Hill—*Committee.*

PEARS.

Your Committee on Pears attended to their duties and submit the following report:—

The whole number of Exhibitors, or Entries of Pears, 62; number of Plates of Pears exhibited, 285; number of varieties 68; Amesbury exhibited 29 plates of 25 varieties, from 2 persons, for which $25 in premiums were awarded; An-

Digitized by Google

dover, 9 of 7 from 4, $1 gratuity; Bradford, 8 of 7 from 3, $6 premiums; Danvers, 44 of 34 from 4, $13.50 premiums; Georgetown, 3 of 3 from 1; Gloucester, 5 of 5 from 1; Groveland, 6 of 4 from 4, $3 premiums, $1 gratuity; Haverhill, 25 of 20 from 3, $7.50 premiums, $2 gratuity; Lawrence, 66 of 22 from 26, $13.50 premiums, $7.50 gratuities; Manchester, 1 of 1 from 1, $3 premium; Methuen, 1 of 1 from 1; Newbury, 1 of 1 from 1, $1 gratuity; Newburyport, 33 of 32 from 2, $7 premium; North Andover, 14 of 14 from 3, $2 gratuity; Peabody, 33 of 27 from 3, $12 premiums, $5 gratuities; Rockport, 3 of 3 from 1, $1 gratuity; Topsfield, 4 of 4 from 2.

Of varieties of pears *recommended by the Society*, there were 13 plates of Bartletts, 9 of Belle Lucrative, 12 Beurre Bosc, 12 Beurre Clairgeau, 16 Beurre d'Anjou, 11 Buffum, 2 Clapp's Favorite, 14 Duchesse d'Angoulemę, 3 Dana's Hovey, 4 Golden Beurre of Bilboa, 9 Lawrence, 23 Louise Bonne de Jersey, 5 Maria Louise, 14 Onondaga; 3 Paradise d'Automne, 17 Seckel, 1 St. Michael Archange, 15 Sheldon, 7 Urbaniste, 9 Vicar of Winkfield, 7 Winter Nelis.

There was one exhibitor of 34 varieties, 1 of 33, 1 of 24, 1 of 21, 1 of 19, 2 of 11, 1 of 10, 1 of 8, 1 of 6, 4 of 5, 4 of 4, 10 of 3, 9 of 2, and 25 of 1, to whom were awarded premiums and gratuities as follows, viz. :—

First premiums for best dish of 12 specimens, of certain varieties of Pears, for which special premiums of $3 each are offered.

Bartlett, Mrs. B. McAllister, Lawrence; Belle Lucrative, J. Henry Hill, Amesbury; Beurre Bosc, Chas. B. Emerson, Bradford; Beurre Clairgeau, Peter Wait, Danvers; Beurre d'Anjou, John V. Stevens, Peabody; Buffum, M. B. Kenney, Lawrence; Duchesse d'Angouleme, Dr. George W. Sargent, Lawrence; Dana's Hovey, E. F. Webster, Haverhill; Golden Beurre of Bilboa, John Price, Manchester; Lawrence, Wm. H. Huse, Newburyport; Louise Bonne de

Digitized by Google

Jersey, J. Henry Hill, Amesbury; Marie Louise, A. J. Hubbard, Peabody; Onondaga, S. B. George, Groveland; Paradise d'Automne, John V. Stevens, Peabody; Seckel, S. B. W. Davis, Lawrence; Sheldon, E. F. Webster, Haverhill; Urbaniste, E. Bradstreet, Danvers; Vicar of Winkfield, A. J. Hubbard, Peabody; Winter Nelis, Albert Kimball, Bradford.

The only plate of Clapp's Favorite Pears worthy of the premium, was exhibited by D. W. Low, of Gloucester, who, being one of the Committee, was not entitled to it. Other varieties, for which special premiums are offered, were not exhibited, being past their season, or else were not of such quality as to be deemed worthy of it.

For each dish of 12 best specimens of any other variety, $1.50. Deemed worthy by the Committee:—Howell, E. F. Webster, Haverhill; Flemish Beauty, M. B. Kenney, Lawrence; Beurre Hardy, Peter Wait, Danvers.

Best dish of 24 specimens, premium, $6:—Beurre d'Anjou, J. Henry Hill, Amesbury.

Best collection of 20 varieties, premium $8, to J. Henry Hill, Amesbury.

Best collection of 15 varieties, premium $6, to Peter Wait, Danvers.

Best collection of 10 varieties, premium $4, to Wm. H. Huse, Newburyport.

Gratuities for Collections: J. V. Stevens, Peabody, $3; E. F. Webster, Haverhill, $2; A. J. Hubbard, Peabody, $2; Theron Johnson, North Andover, $2; Daniel Saunders, Lawrence, $2.

Gratuities of $1 each for Beurre d'Anjou, Ella C. Corliss, Lawrence; Onondaga, John W. Marshall, Rockport; Urbaniste, Wm. W. Perkins, Newbury; Seckel, Baldwin Coolidge, Lawrence; Marie Louise, Daniel Cummings, Andover; Beurre Hardy, George E. Taylor, Lawrence; Beurre Clairgeau, John O'Brien, Bradford; Sheldon, Mrs. D. H. Stick-

Digitized by Google

ney, Groveland; Louise Bonne de Jersey, Samuel Barrett, Lawrence; Buffum, H. H. Hill, Lawrence.

The Pear, we believe to be the favorite fruit of to-day, and we recommend to any one setting out trees for profit, to devote as much land, *at least*, to the raising of Pears as he does for his Apple orchard, for we consider it, *when not grown in too many varieties, and only of those varieties that are adapted to the soil; to be the most profitable crop that can be raised.*

The Pear tree, on soil adapted to its growth, is very long lived and very prolific. There are trees on record of immense size and age, abroad, several of which are known to be upwards of 400 years old, one in England, known as the Perry pear, on account of 15 hogshead of *perry* having been made for several years, from its fruit, in a year. (The juice of the pear, when pressed out the same way as cider, is called "perry," and is esteemed by many persons for its richer qualities.) This tree, in 1805, covered more than an acre of land, the branches bending down and taking root, thus produced others. In a late work on trees this was stated to be in fine health, though reduced in size.

We have in our own country very old pear trees, two of which, most famous, are the *Stuyvesant* and *Endicott* pear trees. The *Stuyvesant* pear tree was planted nearly two hundred and fifty years ago, by the old Dutch Governor of New York, and was standing in the heart of the city, until within a few years, when it was cut down and the place built upon—the fruit being a very pleasant summer pear. The *Endicott* was planted by Governor Endicott, the first Governor of Massachusetts, 245 years ago, on his estate, now owned by Mr. Page, in Danversport, in this county. The tree is yet alive and vigorous, having borne about two bushels of pears the past season.

These pear trees were introduced from the old continent, as the tree is not a native of this country, although now, some of our best pears are natives, such as the Seckel, Shel-

Digitized by Google

don, Lawrence, Dana's Hovey, Onondaga and Clapp's Favorite, recommended by our society for culture. Other varieties of excellent quality, which have originated in this country, are not so well adapted to our soil and climate.

One of the largest pear trees in this country, as reported in Hovey's Magazine, is growing in Illinois, which, when not more than forty years old, one foot above the ground its trunk was *ten feet in girth*, and at nine feet from the ground, *six and a half feet* in girth, its branches extending over an area sixty-nine feet in diameter. In 1834 it yielded *one hundred and eighty-four bushels* of pears. The tree is stated as enormously productive always, the fruit pretty large, of fair flavor, and ripening in early autumn.

Your Committee noticed, in the Exhibition Hall, that while the fruit of some exhibitors was very fine, the same varieties by others, were greatly inferior, and as each are likely to show their best fruit, others in the county have, without doubt, the same varieties entirely unfit for exhibition.

To enable your Committee to ascertain the practical experience of the different fruit growers in raising their pears, that the information might be reported to the Society, the following questions were sent to each exhibitor, as, also, with slight alteration, to members of the Committee and a few of the other fruit growers who made no exhibit this year, of their pears; viz.:—1. What different varieties of pears did you exhibit at the County Fair at Lawrence? Indicate on what kind of tree raised, by marking S for Standard, and D for Dwarf, over each variety. 2. What kind of soil? 3. Sub-soil? 4. How often is soil enriched? 5. What with? 6. How much do you prune, and when? 7. Have your trees been troubled with the blight or insects? 8. If so what remedy have you tried? With what success? 9. What are the most profitable trees to set out, Standards or Dwarfs? 10. Why? 11. When do you pick your different varieties of pears? 12. How long afterwards are they ripe for eating? 13. How do you keep them best and longest? 14. What

Digitized by Google

ten varieties are recommended by you for profit? and why? 15. Give such other information as you think may be of interest to others.

The above fifteen questions were sent in such a form that they could be readily answered on the same sheet. Had it not been that the varieties exhibited were, in most cases (as should always be in all), entered upon the Entry Book, it would have been impossible to have ascertained, except from each exhibitor afterwards. Even if a few of the questions had been answered *by all*, it would have shown that *each was willing* to contribute even a little to the stock of general information, which our Society is organized to promote, and which should be considered the duty of every Committee to obtain, regarding the special object of which it is made the judges, and report it. The mere looking at an object in the pens of the Fair Grounds, or on the tables of the Hall, is only a gratification to the eye; *to know how* the objects have reached such perfection as to gratify the eye, imparts knowledge, that too of the very best kind, it being the practical experience of exhibitors from all parts of the county, whose information of their manner of feeding, cultivating, or making, to arrive at the result exhibited, is the most valuable, and most desired by our Society, and which each exhibitor should feel it a pleasure, as well as a duty, to impart unsolicited, to be made use of by the Committee in their report. The good points of such information, adopted by others, will not *injure him*, its only result would be to *raise the standard of excellence.*

Some of the replies to the questions asked, are appended as part of this report, and will be read with interest and instruction (especially that of Mr. John O'Brien, of Bradford), for much valuable information can be derived from them.

The almost unanimous reply as to Standard or Dwarf trees *for profit*, is in favor of Standards, on account of their larger and thriftier growth, longer life, greater productiveness, and requiring less care, being more hardy than the Dwarf.

Digitized by Google

The Duchesse d'Angouleme is the exceptional pear, *that* grows better on Dwarf stock. There are others that produce better fruit on Dwarf. If an amateur wishes a large variety in a small space, to fruit quickly, Dwarfs of some varieties are good for ten or twelve years, if well cared for.

The *soil* for pear trees should not be too rich, if it is, they will grow too rank, be more liable to blight, and less likely to form strong fruit buds. You cannot starve them, however, no more than you can any crop, and expect it to succeed. Keep them thrifty?

We would urge upon all, who have not already tried it, the use of a pen or hogsheads, into which all the sweepings of the house, chamber slops, meat bones, old shoes, leaves and other refuse of the house and garden, which, when scattered around the house, make the yard untidy and unwholesome, and which would, when accumulated in a mass, and deodorized with fresh earth thrown upon it from time to time, be a surprise, in the amount and richness of the compost that would be so beneficial for the fruit trees.

The soap-suds of the washing day of an average sized family, is equal to a wheelbarrow load of manure if emptied around the grape vines and fruit trees.

Ashes from coal or wood,—from the latter being best,—are excellent for fruit trees. Coal ashes put around trees, say ten inches to one foot high at the trunk, extending back two or three feet, is recommended as a good protection to the roots, like mulching, giving the trees a better start in the Spring.

Top dressing in the Fall is by far the best time and mode of manuring fruit trees, whenever they are not making a thrifty growth. We think that trees when so treated are less likely to blight than where manure is ploughed or dug in. We should not advise manuring heavily at any one time, but give them a slight top dressing every Fall with *well rotted* manure, (as straw, or coarse manure, harbors mice), and it will be found more favorable to thriftiness, productiveness, and ex-

Digitized by Google

emption from disease. One or two shovelfuls of fresh cow manure applied to the trunk of the tree, we have tried with success against mice in winter.

Change of soil by transplanting, accomplishes astonishing results sometimes. We have known of a tree barren for years taken up and transplanted a hundred feet, to soil dryer and more gravelly, and producing fruit abundantly afterwards. A Bartlett pear tree, considered worthless, growing in the border of a cold grapery, in rich deep garden soil, on which the fruit, not much larger than an English walnut, was black and badly cracked, was given to our Chairman by Dr. Davidson, in Gloucester, to try the effect of change of soil. It was taken two miles away, and planted in a strong, clayey, virgin soil, just broken up. The result was, that a *new vigorous life* was imparted to the tree, and this season it produced from two to three bushels of as fine pears as any one need desire. The first year that it fruited, after removal, not a pear was cracked, all were of fair size, but a large number were gnarly; they have improved in size and quality every year since. The tree has grown to thrice its original size, and is very prolific every year.

The right kind of soil for the right kind of tree, will produce *superior* fruit on that tree, wherever located, although protection from bleak winds adds greatly to the effect of the soil. We think the soil in and about Lawrence is of that kind of soil for a number of varieties.

George E. Taylor, of that city, who had a plate of fine Beurre Hardy pears in the Fair, says of his fruit, "I sold my Bartletts before the Fair, *fifty of which filled a half bushel.* I had some very nice Duchesse, *many weighing sixteen ounces apiece*; the trees are all standards, growing between houses, on low, sandy soil." Mrs. Benj. McAllister, of same city, who had the finest Bartlett pears, and was awarded the premium, states they were grown on a Standard tree; that she "simply let them grow in the garden until Fall, and then picked them."

Digitized by Google

The remarkable size and quality of Dr. Kenney's fruit, raised in same city, attracted much attention. *Flemish Beauties*, that grow so badly cracked in most parts of the county, and are considered almost worthless, were there of great size and very fair. He states that they are of the finest quality, and the richest pear he has, in a variety of ten or twelve kinds, *all of which* produce the same good quality, according to their kind, as those exhibited.

His manner of setting out and treatment of his trees afterwards, probably had a considerable effect upon the result, for when he set out the trees, about sixteen years ago, he had holes dug about four feet in diameter, and two and a half feet deep, then filled in about one foot of compost, bones, old shoes, lime and old scraps of iron, then covered that with about six inches of soil, then set his trees and "filled in with *rich soil*, which in Lawrence, and all about there, *is the common soil*." In addition to enriching the soil around the trees by spreading on sink deposits every two or three years, he also spreads on the ground over the roots, not very near the body, about a pint of iron turnings, or filings, with half a pint of salt, around each tree, every four or five years. His trees are protected from all winds except from the east, and he prunes off half the previous year's growth in the spring.

We think that iron is of great benefit to pear trees, as well as other kinds of fruit trees, our Chairman having used the sweepings of a blacksmith's shop, where horses are shod, containing old nails, bits of iron, hoof chips, &c., around apple and pear trees, with an occasional dressing from the sink drain, to much advantage, as regards the size and fairness of the fruit, having readily disposed of what Clapp's Favorite and Bartlett pears he had to sell, at from $2.25 to $2.50 per bushel, and several bushels of "Duchesse" at $3.00, which in contrast with apples, in such abundance that twenty to forty cents per bushel were the selling prices, with two hundred bushels for cider, and notwithstanding the So-

Digitized by Google

ciety's premium awarded him for the best fifteen varieties of apples, may be added, leaves a large margin in favor of pear culture, for the area occupied, although it detracts nothing from the value of the dressing used for both kinds of trees.

Opinion differs in regard to pruning; some advocate much, others little or none; some at certain times of year, and others at any time; we think, however, that the majority decide upon the Spring as the best time for it, though we believe that at any time between Fall and Spring will answer as well. Whenever done, it should not be done harshly; it is better, when the growth requires it, to prune moderately *every* year sufficient to keep the tree stocky and able to bear up under the weight of its fruit, and open enough to obtain the benefit of sun and air to mature it. It is also of great benefit to trees and fruit, to thin out the fruit, especially on Bartlett, Louise Bonne, Vicar and Seckel pear trees, as those varieties are apt to overbear.

The blight, now so well known in pear culture, is cured best by the free use of saw and knife, cutting away the part affected until sound wood is reached, covering large wounds on the tree with a dressing of clay and cow manure, or a coating of linseed oil, both of which have been tried with good success by your Committee and others. Our Chairman had a Bartlett pear tree about four years old, blighted on the westerly side of its trunk, commencing about nine inches from the ground, extending upwards over eighteen inches, and extending around about one-third of the circumference. All of the affected part was cut out, and a coat of linseed oil applied, resulting in having the tree to-day, as good as any in growth and fruit, and, although the growth of the bark has nearly covered the wound, the symmetry of the tree is marred. In most cases, however, the disease and its remedy are a *serious* drawback to the welfare of the tree. The slug and most insects, *if they are taken in season*, on almost all kinds of trees, can be got rid of by a dusting with wood ashes, or air slacked lime, when the tree is wet.

Digitized by Google

(Peach trees with the "curled leaf" can be cured by a dusting one or twice with wood ashes when the tree is wet.) Mr. Wm. McRae, of Lawrence, states that his pear trees were troubled with "Rose bugs," which were destroyed by burning tar under the trees.

We would advise our farmers and fruit growers, intending to set out pear trees *for profit*, to carefully ascertain what varieties are the most profitable in their immediate vicinity, on similar soil as their own, and not try, except for experiment, other varieties, until tested by themselves or their neighbors, as the same variety that does well in one place, is unprofitable in another, so that although a certain number of varieties are recommended by our Society for general culture, some of them do much better in that part where the soil is best adapted for them, which can only be ascertained by actual test, and if done thoroughly throughout the county, and the mode of culture of the trees, with the result attained, including the number and variety of trees planted and the varieties succeeding the best, communicated to our Society, would enable it not only to recommend a larger number of varieties, but also state the parts of the county best adapted to the successful culture of each variety.

All unite in stating the best time for picking fruit to be when the stem separates readily from the twig upon lifting the fruit. Change of color and the premature dropping of the fruit, *forced ripe* as it is commonly called, is another good indication. All kinds of pears should be picked off before ripening; many choice varieties are almost worthless, if allowed to ripen on the trees. Mr. Barry, when editor of the "Horticulturist," aptly stated: "The process of ripening on the tree, which is the natural one, seems to act upon the fruit for the benefit of the seed, as it tends to the formation of woody fibre and farina. When the fruit is removed from the tree at the very commencement of ripening, and placed in a still atmosphere, the natural process seems to be counteracted, and sugar and juice are elaborated instead of

Digitized by Google

fibre and farina. Thus, pears which become mealy and rot at the core, when left on the tree to ripen, become juicy, melting and delicious, when ripened in the house." Winter pears should not be picked until absolute danger from freezing approaches, they will then ripen up firm, with high color and finer flavor. All pears should be picked off, with the stem on, carefully, and handled as little as possible and very carefully afterwards, as every scratch will turn dark on mellow fruit, and every bruise will rot it. The practice of some, of rubbing fruit to make it shine, injures the keeping qualities of the fruit, destroys its natural look, and any exhibition committee should give the natural fruit the preference. Fruit with an *unnatural* shine on the *whole* in the plate, more properly belongs to the hucksfer's stand than the tables of an Agricultural Society's Exhibition.

To keep pears longest and best, they should be kept in a dark, cool, dry place, with temperature, if possible, at about 40 degrees, taking them to a warm, moderately moist place to ripen and soften them, an even temperature of 70 degrees is best. If laid between papers in Summer, and blankets in Winter, to ripen, they will come out with better flavor and color, ripening quicker and without wilting; fruit loses flavor if ripened in a place too cool.

The two large plates full of Clapp's Favorite pears and William's Favorite apples, exhibited by our Chairman, attracted attention, not so much for being handsome specimens of their kind, but for being "past their season," having been kept by wrapping each one in paper and packing them in a keg heavily lined with newspapers. The keg was then headed up and placed in a large ice-house near his premises until the day before the Fair. A neighbor of his wraps apples separately in papers, packs them in paper lined barrels, and then fills the barrels with dry sand, sending them to hot climates with success, as regards their keeping. A writer in the London *Garden* says that "he keeps fruit in this way all the year round. He has kept French Crab Ap-

Digitized by Google

ples two years. The Cattilac pear has remained sound twelve months. The fruit must be sound "when stored, and the sand must be quite dry."

"The chief advantages of packing in sand are the exclusion of air currents, the preservation from changes of temperature and the absorption of moisture, which favors decay. Much will depend on the apartment in which the experiment is tried; a dry, cool one being best."

Mr. Russell thinks that *he holds the key* to the solution of the problem of how to keep pears *longest* and *best*." He replies, "*Lock them up.*" We believe that if the place where locked up, is *as cool* as his reply, there would be danger of *freezing*, which might not be the *best.*

The varieties recommended in the replies to the inquiry, What ten varieties recommended by you for profit? and why? are given below, in the order in which they received the highest number. For their special claims in rank you are referred to the replies appended, extracts from which, for the first ten varieties, are given here, viz.:—

1. Bartlett; bears early and abundantly, quality admirable, is a great favorite, always sells, ripens in September. 2. Sheldon, grows well, bears well, and sells at highest prices; ripens in October. 3. Louise Bonne de Jersey; good grower, very productive, finds a ready market; ripens in September. 4. Beurre d'Anjou; excellent, productive and profitable, excellent keeper; ripens from November to March. 5. Duchesse d'Angouleme; of the highest quality and most popular; ripens in November and December. 6. Seckel; of the highest flavor known among pears, productive, bringing a good price; ripens in October. 7. Beurre Clairgeau; early, abundant bearer, large and handsome, ready market at highest prices; ripens November to January. 8. Beurre Bosc; excellent and high flavored, much in demand; ripens in October. 9. Lawrence; free bearer of excellent winter pears, sells high; ripens November and December.

Digitized by Google

10. Vicar of Winkfield; great productiveness, ripens when others are nearly gone, finds a ready sale at good prices; ripens December to March. 11. Rosticzer. 12. Belle Lucrative. 13. Onondaga. 14. Clapp's Favorite. 15. Winter Nelis. 16. Howell. 17. Urbaniste. 18. Buffum. 19. Beurre Giffard. 20. Marie Louise. 21. Paradise d'Automne. 22. Glout Morceau. 23. Dearborn's Seedling. 24. Bloodgood. 25. Kingsessing. 26. Tyson.

Your Committee, like others, labored under the disadvantage of scattered fruit on the tables in the Exhibition Hall, while some of the fruit tables were intersected with manufactured goods, making it laborious, difficult and unsatisfactory for the Committees. The fruit was, however, better arranged than at most, if not all, of the previous exhibitions. The manner of quickly increasing the table space, *when necessary*, with a wide board upon supports, put on so readily (after the table was filled with fruit) in a way that did not interfere with showing the fruit under it, we considered a commendable expedient, worthy of notice and recommendation. The plates of pears being scattered among other classes of fruit, or with other varieties of the same class, *and where varieties were together*, the removal of plates back to the *collections* from whence taken, to enable the Committee to judge the collections, consumed so much time that some of the Committee were obliged to leave before completion; those that were left received the valuable assistance of Hon. J. J. H. Gregory and Aaron Low, Esq., for which the Committee here express their indebtedness.

The delay and labor of fruit committees, at all the Society's exhibitions, caused your Pear Committee to give the subject careful consideration, and they concluded that the Society was to blame more than Hall Superintendent, Exhibitors, or any Committee connected with the fruit exhibit, from the fact that the Society had not any special rules governing such exhibit, except the matter of entry and certify-

Digitized by Google

ing. That such special rules were necessary was so obvious that recommendations governing fruit exhibits, were presented at the Trustees' meeting in November, and unanimously adopted by the Society, so that collections and single plates would not be classed together, and to have each variety of each class together, so that their merits (as far as the eye reached them) could be contrasted quickly and surely by all. Exhibitors and Committees, by such rules, would know beforehand what was expected of them, the exhibitors would see, when they entered the hall, on what tables to place their fruit, by the prominent notice (name of class and variety) there displayed. It is expected, however, that the Hall and Fruit Committees will assist them all in their power. A copy of the Special Rules adopted by the Society, to govern Fruit Exhibits hereafter, is appended hereto.

Respectfully submitted for the Committee,

DAVID W. LOW, *Chairman.*

Special Rules to govern Fruit Exhibits, adopted by the Society, November 13, 1878.

All Fruit must be entered in the name of the *producer*, and each exhibitor must certify to the same on *lists of the varieties, to be filed when entry is made, or on the Entry Book.* (Committees are not authorized to make awards to those who do not comply with this rule.)

Tables will be labelled *in a conspicuous manner* by the Hall Committee, *previous to the entry of exhibitors*, with the names of fruit, or collections of fruit, for which premiums are offered, all others to be classed and labelled as *Miscellaneous.*

Exhibitors must place their several varieties where indicated by such labels, *or be considered by the Committees as not competing for premiums.*

Collections where premiums are offered for a number of varieties, must be entered and placed by themselves on the tables assigned *for collections of that class of fruit.*

Digitized by Google

Specimens of any variety, in such collections, *are not to compete* with specimens of same variety placed elsewhere.

No collection can be awarded more than one premium.

Exhibitors of collections *are not prevented from exhibiting additional specimens* of any variety *with*, and for competition with others of that variety.

Plates of 24 *specimens of Fruit*, when premiums are offered therefor, must be entered and placed by the Exhibitor on the table assigned for that class of fruit exhibit.

To entitle Exhibitors to receive the premiums and gratuities awarded, they are required to give information to the Committees (when requested) in regard to the culture of their fruit.

REPLY OF BALDWIN COOLIDGE, OF LAWRENCE, MASS.

I only exhibited Seckel this year, raised on a Standard tree. I should have shown Duchesse d'Angouleme, from a Dwarf tree, as I found on gathering them that I might have taken first premium over any shown. My place is quite small, a half acre only. The Seckel is ordinary nursery stock, the Duchesse is imported. My soil is a clayey loam, with a hard clay gravel-packed subsoil. The soil is enriched once in two or three years with night-soil, deposited in a series of holes dug around the trees, three or four holes to each tree, and from four to six feet from tree to nearest edge of hole.

I prune my trees a good deal, almost mutilate them, keeping them stocky and short, except when growing them for wood, and not fruiting. I prune usually in the spring, but sometimes in the fall; think fall the best on account of snows and storms having less of the tree to act on, the tree then knows just what to work on in the spring.

I have lost two trees by blight I suppose, the trees dry up and they die. I keep insects (red spiders) off with soap or potash, put bar soap in the crotches of the trees and let it

Digitized by Google

gradually waste away all summer. I found some left when picking this fall.

In regard to the most profitable pear trees to set out, that depends upon kinds, location, whether to eat or sell, &c. I have both Dwarf and Standard Duchesse, and the Standard is not to be compared with the Dwarf, but the Dwarf is from France, the Standard common. I pick my pears when the stem will break off in the right place, with a moderate degree of force, such as Seckel, Bartlett, Louise Bonne de Jersey, Clapp's Favorite, Belle Lucrative, Rosticzer and Tyson. The Duchesse I gather the first week in October, and they ripen from October to Christmas. I keep my pears cold, dark and dry.

I have not had the experience to recommend ten varieties for profit.

I get iron dust from machine shops and dig in around the trees as one would dig in guano, rub soap all over the trunk, keep the tree propped up. I think I lost one tree by its leaning over with fruit, three years in succession, (a Passe Colmar); it seemed to tear the small roots off.

Respectfully submitted,

BALDWIN COOLIDGE.

REPLY OF M. B. KENNEY, M. D., OF LAWRENCE.

I exhibited the following varieties of pears at the County Fair, at Lawrence, viz.:—Duchesse, from Dwarf tree, and Buffum, Flemish Beauty, and Vicar of Winkfield, from Standards, raised on a sandy loam, mixed, enriched once in two or three years with sink deposits, spread on surface. I prune off about *half* the previous year's growth in the spring.

My Vicars, Rostiezers and Buffums, have suffered *badly* with the blight. My other varieties have not been touched by it. A *radical cutting* is all that I have tried, and have *saved* some of them, although *much injured*, of course.

The most profitable trees to set out, I think, are Stand-

Digitized by Google

ards; we don't get the fruit so quick, but they have a *longer life*, and just as sure to bear a crop as the Dwarf.

I pick my pears as soon as they get their growth and begin to turn yellow. They ripen in from two to four weeks. I have never tried how to keep them best and longest.

I cannot recommend varieties for profit, as I do not consider myself a competent judge. I do not raise them for market. I go more for *quality* than quantity. I am aware that the Flemish Beauty has the reputation of cracking badly, but mine has never had but very few cracked, and that very seldom. They are of the finest quality, and the richest pear that I have in a variety of ten or twelve kinds.

M. B. Kenney, M. D.

Lawrence, Oct. 24, 1878.

In reply to inquiries for more particulars on certain points, Dr. Kenney kindly furnished the following:—

"When I set out the trees, about sixteen years ago, I had a hole dug about four feet in diameter and two and a half feet deep, then filled in about one foot of compost, bones, old shoes, lime, and old scraps of iron, then covered that with about six inches of soil, then set my trees and filled in with rich soil, such as is all around Lawrence and everywhere in these parts *the common soil*. I cannot tell its component parts, as I am not skilled in that science. The sub-soil is gravelly. All my trees *do* produce the same good quality, according to their kinds, as those exhibited. *I do not thin out* the fruit when young, but probably it would do better to do so on trees that start *very full* of young fruit. I have *no doubt* that *the fruit* would be *larger*. In *addition* to putting on the sink manure every two or three years, I also put on the ground over the *roots*, *not* very near the *body*, about a pint of *iron turnings or filings*, with about *half pint of salt* around each tree every four or five years. In regard to the protection from severe cold, my garden *is surrounded* on all sides, except the east, *by buildings*, which of course *does* protect them very much from the cold and winds, and very probably that helps much to produce good fruit.

This answers all your questions as near as I can; and if

Digitized by Google

there is anything else that I can say, that I have not, be assured that I will freely and gladly answer all, and give all the *particulars* that is possible for me. Although I am no *gardener* or *farmer*, I *do enjoy* spending my *few* leisure hours among my little fruit trees and vines.

Yours very truly,

M. B. KENNEY, M. D.

Lawrence, Nov. 4, 1878.

REPLY OF GEORGE W. RUSSELL, OF LAWRENCE.

I exhibited at County Fair, Sheldon pears, raised on soil of a clay nature, enriched once a year with stable manure. Have done very little pruning, and usually in the fall. Occasionally a tree dies from blight. Have tried no remedy.

The most profitable pear trees to set out, Dwarfs—because my experience is, that they yield more for space occupied. Children pick the pears as fast as they ripen, as long as they remain on the trees. To keep them best and longest—*Lock them up*.

REPLY OF H. B. ROBIE, OF LAWRENCE.

I exhibited at the County Fair the following varieties of pears, viz. :—Louise Bonne de Jersey and Lawrence, grown on Standard trees, and Duchesse d'Angouleme and Beurre d'Anjou, grown on Dwarfs. My soil is sandy loam with gravelly sub-soil, enriched every year with barn yard manure.

I prune very little. Have had two trees die this year with blight. Did not try any remedy. Do not know enough about them to say whether Dwarfs or Standards are best. I pick Louise Bonne in September, Duchesse and Beurre d'Anjou in October, and Lawrence in November. They are ripe for eating three or four weeks afterwards. I keep them best and longest in a dark, cool room, I cannot recommend varieties for profit, as I am acquainted with but few of them.

Respectfully,

H. B. ROBIE.

Digitized by Google

REPLY OF HENRY A. PRESCOTT, OF LAWRENCE.

I exhibited the following varieties of pears at the County Fair at Lawrence, viz.:—Duchesse d'Angouleme, Beurre d'Anjou, Winter Nelis and Louise Bonne de Jersey, raised on *Dwarf trees*, and Seckel, Sheldon, Beurre Clairgeau and Lawrence, raised on *Standard* trees, grown in a strong loam, with a hard, clay sub-soil, enriched lightly every year with stable manure, *well rotted*.

In pruning I head back severely every spring. Have been troubled very little with blight or insects. For blight, cut off, with generally good success. For insects, have done nothing.

I consider the most profitable pear trees to be, generally, Standards; some kinds do better on Dwarfs. I am not experienced enough to tell why.

I have not noted my times of picking fruit; my pears ripen in from four days to four weeks, keeping them longest and best by spreading them in a dark, cool place, and cover with woollen.

As my experience in raising pears has been rather limited, I do not feel competent to give further information.

HENRY A. PRESCOTT, Lawrence, Mass.

REPLY OF H. G. HERRICK, OF LAWRENCE.

I exhibited at the Fair the following varieties of pears, viz.:—Swan's Orange, or Onondaga, Louise Bonne de Jersey and Beurre Bosc, all grown on Standard trees, in garden loam, with clayey gravel sub-soil, enriched every year with *old manure*, with some of the mulching (coal ashes) dug in.

I prune, not much, except suckers, and enough to keep trees in symmetrical shape, in spring. I keep the branches open enough for sun to shine through them.

My trees have been troubled with blight heretofore—not much this year. For a remedy, tried knife and saw—heroic treatment. If done early enough the tree has been saved. If not, then not. I have had no experience with Dwarf trees. I pick my early fall pears when they have attained

Digitized by Google

full growth, and before they change color; they ripen in from one to three weeks, keeping them longest and best in a dark, dry, cool place, with plenty of air. Can not recommend the varieties of pears *for profit*, as I have had no experience in marketing pears. In enriching the soil for my trees, I dig in the manure around the trees every year—usually in the fall—and put a pile of coal ashes about the tree, say ten inches to a foot high at the trunk, running back two or three feet. It seems to be a protection to the roots, like mulching, giving the trees a better start in the spring.

Yours truly,

H. G. Herrick.

REPLY OF E. W. GREENE, OF NORTH ANDOVER.

I exhibited at the County Fair, at Lawrence, two kinds of pears, viz.:—Bartlett and Beurre Bosc, both varieties raised on Standard trees, grown in a heavy loam, with a hard-pan sub-soil, enriched yearly with light dressing of stable manure. I prune very little, in spring. Have been troubled with both blight and insects, to some extent; have tried no remedy. I pick my pears—Rostiezers when ripe, most of the others when the stem separates from the wood by lifting. They ripen in from one to four weeks, the earlier varieties quickest. I keep and ripen them best in a cool place, free from air. I recommend the following varieties for profit:—

Madeline and Rostiezer, early and productive. Bartlett, productive and universally known. Louise Bonne de Jersey and Seekel, productive and of good quality. Beurre Bosc, Beurre Clairgeau and Swan's Orange (Onondaga), all productive, and of good quality and fine appearance. Winter Nelis, productive and good keeping qualities. Buffum, hardy. I find the Bartlett, Swan's Orange, and Beurre Bosc, the most reliable to bear, and best for market with me.

Respectfully yours,

E. W. Greene.

North Andover, Oct. 31, 1878.

Digitized by Google

REPLY OF THERON JOHNSON, OF NORTH ANDOVER.

The different varieties of pears exhibited by me at the late County Fair at Lawrence, and the kinds of tree on which they were raised, were as follows:—Vicar of Winkfield, Sheldon, Howell, Buffum, Lawrence, Swan's Orange (Onondaga), Belle Lucrative, all from Standard trees, and Beurre d'Anjou, Seckel, Glout Morceau, from Dwarfs, Louise Bonne de Jersey, and I think the Seckel, were partly from Dwarf and partly from Standard.

Soil—dark heavy soil, underdrained, sub-soil clayey, enriched last year a little, but not before for five or six years, with barn-yard manure, about two shovelfuls to each tree, last fall; this spring it was spread over the orchard.

Have not pruned except to cut away dead wood. Have lost a number of trees by blight; have tried no remedy.

I think Standards the most profitable on our soil; cannot say why they are best, except that it is very difficult to make Dwarfs grow here; on lighter soils I think Dwarfs generally do better.

In picking and ripening pears, my usual rule is to let all kinds hang till by lifting the pear it readily parts from the tree. Vicars and late pears I let hang as long as safe. Different varieties vary in ripening from one to two weeks after picking, some longer. Have not tried many ways of keeping, but find that by placing them as soon as picked, on a shelf in a cool cellar, they kept better than any other way tried.

Cannot recommend any varieties for profit, as have never tried to sell any; but should say for early, Rostiezer and Dearborn's Seedling; second, Bartlett, Belle Lucrative, to be followed by Sheldon, Howell, Seckel, Swan's Orange, Glout Morceau, Vicar of Winkfield, and I believe the Winter Nelis is considered profitable with some, but I have not got that. I mentioned the above because all are good eating pears, most are good cooking, and with me are all good bearers and hardy. I believe some considered the Buffum a profitable

Digitized by Google

pear, it certainly bears well and is hardy, but I call it a very poor eating pear. The Kirtland, I have two trees, did not bear this year, and I shall graft it, for I think I never saw a worse pear. Beurre Clairgeau is a very nice pear, but a shy bearer with me. Lawrence also nice but shy. Flemish Beauty cracks badly.

JAMES T. JOHNSON,
For THERON JOHNSON.

REPLY OF JOHN O'BRIEN, OF BRADFORD.

I have exhibited at the County Fair, in Lawrence, the following varieties of pears, all raised on Standard trees:—Beurre d'Anjou, Sheldon, Onondaga, Seckel, Lawrence, Belle Lucrative and Beurre Clairgeau. My soil is a sort of dark brown loam, neither light nor heavy, from twelve to fifteen inches deep, with a sub-soil of very fine yellow, having as near the color of ground ginger as anything I can imagine, and I am satisfied that it is the soil for the apple, pear and grape. It is enriched every fall, as my pear orchard is my kitchen garden. I plough under a very liberal supply of barn-yard manure, excrement of horses and cows, which is the best fertilizer that I know of for all kinds of plants, (of course trees are plants, also), when properly applied to the soil, though wood ashes are excellent, but they are too scarce and too costly for profit. As to pruning, I am not very definite on this point, as I have been equally successful with pruning done soon after the fall of the leaf, and that done the 20th of March, on both pears and apples, though I think the most proper time to prune is during the dormant period, when there is no upward flow of sap. I believe pruning, systematically done, regulates the growth and welfare of the tree, and has a great tendency to induce the maturity of fruit spurs, thereby producing fruit earlier and of better quality, than if permitted to go unpruned, to say nothing of the uniformity of the tree. I am opposed to sawing off large limbs, as in so doing the tree receives a

Digitized by Google

severe shock, which must necessarily retard its growth, but if it must be done, the wound should be immediately covered with a mixture of cow manure and clay. This helps to heal the wound, and is a protection from the weather. To do away with this butchering entirely, permit no surplus wood to grow, or in other words pinch off all surplus young shoots when about five inches long, heading down, especially thrifty trees, by cutting off two-thirds of the last year's growth with a sharp knife, and make a smooth cut slanting upwards on a level with the point of the bud. In soft-wooded, pithy trees, half an inch ought to be left above the bud; the position of the bud cut to, is also of much importance in changing the form of the tree, that is, if you wish a shoot to grow upright, prune to a bud on the inside of shoot; and to spread, prune to a bud on the outside, for if you cut every year to a bud on the same side, in two or three seasons it will show an inclination to that side, a great injury to the symmetry of the tree. It is essential to head down once a year, in order that every limb should grow strong enough to stand up under its burden when it fruits.

Regarding blight—I had a very thrifty Standard Seckel tree in my orchard, which had about six inches of every branch on it blighted in the winter of 1871-72, and, singular to relate, it was not the last growth but the growth of the year previous that got blighted, while the growth above it, and all below it, remained sound, you could see at a distance a black line about six inches long. , On discovering this, early in spring, I cut off with my shears every branch six inches below the blighted part, so as to stop its spreading any further, and now I am glad to say that the tree is thrifty and healthy, and last year I exhibited at the County Fair, at Lawrence, a dozen of its pears that I thought would bring the first premium.

The most profitable trees to set out, for permanency and profit, by all means Standards, because they grow larger, are more thrifty, live longer, and produce more fruit, the

Digitized by Google

Duchesse d'Angouleme alone excepted, which thrives best on quince stock. The Dwarf as a rule goes to bearing soon after planting, and bearing a few specimens every year, keeps it in a stunted and sickly state, and when a dozen years old, it is next to worthless, whereas the Standard, being as I may say a natural tree, goes to growing wood for future use, which is necessary before it ought to bear fruit for profit. We must not think that they are backward in bearing either, for we find our best varieties six years from planting (soon enough) well spurred for fruiting, with sufficient dimensions to bear two bushels of pears, and with me such varieties as the Bartlett, Belle Lucrative, and Beurre Clairgeau, have produced abundantly the fourth year from planting; but I would rather my trees grow wood than fruit, until they obtain sufficient size to hold up the fruit. In picking and ripening fruit, a good rule to follow when to pick pears is, on gently lifting the fruit the stem will separate from the limb, and the best place to keep them, is a dark, cool, dry room, with a good circulation of air. I pick Bartletts, Sept. 1st, ripe the 15th; Beurre Clairgeau, Oct. 1st, ripe Nov. 10th; Beurre Bosc, Oct. 1st, ripe the 20th; Duchesse d'Angouleme, Oct. 10th, ripe Nov. 10th; Louise Bonne de Jersey, Sept. 20th, ripe Oct. 5th; Sheldon, Sept. 25th, ripe Oct. 15th; Seckel, Sept. 25th, ripe Oct. 10th; Lawrence, Oct. 10th, ripe from Dec. 1st to Jan. 1st; Beurre d'Anjou, Oct. 10th, ripe Dec. 1st; Vicar of Winkfield, Oct. 10th, or as long as you can safely leave them to grow; they will keep in a good, dry cellar till March, and are fit to eat from December to that time; treat Winter Nelis the same as the Vicar. Another good pear, that I raise myself, I must not pass over, that is the Belle Lucrative, very productive, though a good pear it is not very salable in the market. You must bear in mind that the seasons and circumstances have a great deal to do with keeping fruit. I give you these dates as the proper time to pick, and when ripe in our climate, considering all things favorable to the fruit.

Digitized by Google

For the ten varieties for profit, I give you a list of the best varieties and most profitable in the whole catalogue of the pear family. There are other varieties worth raising, but without *much profit.*

Bartlett, bears early and abundantly, a great favorite, always sells, sold this year $2 to $2.50 per bushel.

Seckel, the highest flavored pear known, productive, and brings good price, sold for $2 to $2.50 per bushel.

Sheldon, a fine grower and a good bearer, sells for the highest price, sold for $2.50 to $3 per bushel.

Beurre Clairgeau, an early abundant bearer, a magnificent market fruit, large and handsome, sold mine this year for $3 per bushel.

Beurre Bosc, excellent and high flavored, ranks high with fruit dealers, sold for $3 this year per bushel.

Beurre d'Anjou, a fine pear, productive and profitable, no orchard is complete without it, sold for $2.50 to $3 per bushel.

Duchesse d'Angouleme, one of the best and most popular in the list, sold $2.50 to $3 per bushel.

Louise Bonne de Jersey, very productive, good grower, finds a ready market, sold for $2 to $2.50 per bushel.

Lawrence, an excellent bearer, one of the very best winter pears, sells high, selling for $2.50 to $3 per bushel.

Vicar of Winkfield, on account of its great productiveness, ripening when most all others are gone, it finds a ready sale at $2 to $3 per bushel.

It gives me great pleasure to answer your list of questions bearing on the cultivation of that most excellent fruit, the pear. I am never at home so much as in the midst of a thrifty bearing pear orchard, but to do anything like justice to the subject, would require more time and space. In answering your questions, however, I give you that which I have learned from practical experience, though not on a very large scale. I have a little orchard of 75 trees, all Standards, save some Duchesse. I grew the ten varieties I named in the list for profit. I can rely on them even when apples

Digitized by Google

fail; and when apples are a drug, as is the case this year, they sell for a fair price, and the demand for the fruit is constantly increasing year after year. The pear succeeds best on a rather heavy loam, the soil should be kept clean and mellow, and a broadcast cultivation, which they require during the growing season. If a hill of corn requires cultivation to accomplish its mission well, how much more so does a bearing tree. Trusting that my answers and remarks may be of some benefit to others,

I am very respectfully yours,

JOHN O'BRIEN.

REPLY OF WM. H. HUSE, OF NEWBURYPORT.

I exhibited the following varieties of pears at the County Fair, viz.:—Beurre Clairgeau, Lewis, Beurre Diel, Glout Morceau, Marie Louise, Beurre Bergamot, Louise Bonne de Jersey, Beurre d'Anjou, Lawrence, Beurre d'Amalis, Kingsessing, Buffum, Golden Beurre of Bilboa, Bartlett, Peerless, Vicar, Cross, Abbott, Sheldon, Curtland, Howell, Beurre Bosc, Beurre Langelier, and one *for a name*, all raised on Standard trees; Seckel, Urbaniste, Catillac, Duchesse d'Angouleme, Soldat Laboreux, Washington, Doyenne Boussouck, and one *for a name*, raised on Dwarf trees, grown on a rich loamy soil, with gravelly sub-soil, enriched every year with common barnyard manure.

I prune not much on old trees. Head them in young. My trees have been troubled with blight some. Have tried no remedy for it.

It depends upon circumstances what are the most profitable pear trees to set out. Should say Standards for most varieties, because they are longer lived.

I pick my pears when the stem parts from the twig easily, and keep them best and longest in the coolest place where they will not freeze.

I recommend for profit the following varieties of pears, viz.:—Seckel, Lawrence, Bartlett, Beurre d'Anjou, Louise

Digitized by Google

Bonne de Jersey, Kingsessing, Sheldon, Beurre Clairgeau, Duchesse d'Angouleme, Urbaniste. Because they are all good quality, steady bearers, and bring a high price.

Respectfully yours,

WILLIAM H. HUSE.

Newburyport, Nov. 13, 1878.

REPLY OF JOHN PRESTON, OF GEORGETOWN.

I exhibited at the County Fair, at Lawrence, the following varieties of pears:—Beurre d'Anjou, Onondaga, and a variety without name, all grown on Dwarf trees.

My soil is a very dark rich loam a foot or more in depth, with sub-soil of a yellowish rich loam a foot or more in depth, resting on a stratum of extremely fine white sand, or sand and clay intermixed, the sand very largely predominating. This stratum of sand is so compact as to form a hard pan.

I enrich the soil around my trees yearly, usually in the spring of the year, with "Stockbridge's Fertilizer for Fruit Trees," and "Bradley's Superphosphate of Lime." I prune only enough to give the trees perfect form. I usually cut back the leaders about the last part of August, or late enough in the season to prevent a succulent growth. By this method of pruning, the sap is impeded in its circulation, and the result is a larger growth of fruit spurs and buds.

My trees have been troubled with the blight and insects, to some extent. If some part of the tree is diseased, I immediately remove that part from the tree; if the tree is diseased generally, I immediately cut it down and commit it to the flames.

Some three or four year since my pear trees were infested with pear slugs, but by several applications of air slacked lime to the foliage of the trees, when moist with dew or rain, destroyed most of them. No other insect has done me much damage.

For the most profitable trees to set out, should say Standards on most soils, and Dwarfs on some soils, because Stand-

Digitized by Google

ards will grow and thrive on most soils in Essex County. Dwarfs require a very deep and rich soil, and high cultivation, to make them thrive well, with more attention on the part of the cultivator.

As regards picking, ripening and keeping, I usually gather early summer and early fall varieties from one to two weeks before maturity, late fall and winter varieties the last of September or first of October; the early kinds ripening from one to five weeks after picking, according to variety. The late fall and winter varieties I can give no definite time. I keep them in small, tight boxes placed in the coolest part of my room or cellar.

Ten varieties recommended for profit, are;—Clapp's Favorite, Bartlett, Louise Bonne de Jersey, Buffum, Sheldon, Onondaga, Urbaniste, Beurre d'Anjou, Duchesse d'Angouleme, and Vicar of Winkfield, because that of some thirty or more varieties that I cultivate, the ten above named varieties grow more pears on the same number of trees, are salable in the market, and command, usually, remunerative prices.

I am just recovering from a fever, and am so feeble that I can hardly write a legible hand, or give much information in regard to pear culture, &c.

Respectfully yours,

JOHN PRESTON.

Georgetown, Oct. 27, 1878.

REPLY OF JOHN W. MARSHALL, OF ROCKPORT.

I exhibited, at the County Fair, Sheldon pears and Beurre d'Anjou, grown on Standard trees, in what was a swamp, having been filled in with a foot of loamy gravel; the soil under the swamp foundation is clay. The soil is enriched every year with barn manure and compost, a good liberal dressing. I have a pen in which house offal, leaves, &c., are put, with an occasional throwing on of soil, to prevent its becoming offensive, making with my small family and garden about a cord and a half of very rich compost.

Digitized by Google

I prune any time. When I see a limb growing out of shape I clip it, without regard to the season of the year. My trees have been troubled with fire blight; several trees have been killed and others injured. I always have noticed that the fastest growing trees are the ones most affected. The blight was noticed in mid-summer by the limbs and leaves turning black, just as if fire had struck them. I cut off the parts affected.

I believe that Standards are generally the most profitable pear trees to set out, with exception of the Duchesse, Louise Bonne, Vicar, and perhaps some others, which do better I think on Dwarf trees—bearing better fruit. Standards with room enough will last longer and be the most profitable for most varieties.

I recommend for profit the Bartlett, Louise Bonne de Jersey, Sheldon, Beurre d'Anjou, Duchesse d'Angouleme, Belle Lucrative, Vicar of Winkfield, and Lawrence, because they are well known in the market.

Very respectfully yours,

JOHN W. MARSHALL.

REPLY OF PETER WAITE, OF DANVERS.

I exhibited 34 varieties, but I will name only a few of them; of course all the common varieties, such as Bartlett, Belle Lucrative, Louise Bonne de Jersey, Paradise d'Autome, Beurre Bosc, Marie Louise, Beurre Clairgeau, Beurre d'Anjou, Howell, Sheldon, and others. I also had some new varieties, which I think should have more notice, and their culture encouraged by premiums instead of some of the worthless kinds now on the list, such as the Buffum, Rostiezer and Doyenne d'Ete, which are not worthy of cultivation. I would recommend in their place the Pratt, Doyenne de Comice and Beurre Hardy. Of this last variety I had a dish of 25 specimens, which I think no dish of pears in the Show excelled. I did not exhibit so many varieties because of their excellence, but to show the contrast between the poor and

Digitized by Google

the good, so that people could see and select for themselves such as are worthy of culture.

My soil is a *heavy gravelly loam*, with a *sub-soil of clay and hard gravel*, enriched generally, once a year, with quite a variety of manure, sometimes one kind, and then another. A compost of barn manure, hog and night soil, makes a good stimulant. The offal from the tan yard is good.

I prune considerable. I think a *small amount of good fruit is better than much poor*. Spring and summer I like best for small-pruning, and the fall for large limbs. Some kinds need much pruning, while others need but little. It needs good judgment and practical experience, and should be attended to.

My trees have been troubled considerably with the blight; my remedy for it is *amputate immediately*, as you would your leg or arm, if *they* were affected with gangrene, and you must be careful to get below all the affected part, for the poison runs down in the sap and destroys as far as it goes. My success, when the work is done in season, is complete, but neglect is fatal.

For the most profitable pear trees to set out, Standards are the only kind I would set, unless Dwarfs are set deep enough to root from the pear stock. The Dwarf makes only a small tree, the roots not being sufficient to support it; then it is short lived, and affords but little fruit.

When to pick pears is altogether governed by circumstances, but most pears should not ripen on the trees. By giving attention, with very little experience, a mere novice might know when to pick his pears, which will ripen, some in three days, others weeks. I keep them best and longest in a dark cool place. I find for late pears no better place than a cool cellar. Light and heat ripen them up quickly. Some seasons some kinds will not ripen up good. This is peculiar to the Vicar, and in consequence some think it not worth raising; but it is an excellent pear, and often will keep till spring, but it must be grown large.

Digitized by Google

The ten varieties I should recommend for profit are the Bartlett, Marie Louise, Paradise d'Automne, Beurre Bosc, Beurre Clairgeau, Beurre d'Anjou, Howell, Sheldon, Pratt, Beurre Hardy, and Louise Bonne de Jersey. The Bartlett is the best early pear, and fills up quite a space between other early and later kinds. The Louise Bonne comes soon after, and is a fine pear for the table and for shipping (?). The other kinds are all late Fall or early Winter. There are many other varieties of late pears that stand high, such as the Duchesse, the Vicar, Dana's Hovey, Lawrence, Merriam, &c.; also Pratt, Beurre Hardy, and Doyenne de Comice.

It has become a fact that almost every one that has a foot of land must have a pear tree on it, and those that have more land must have more trees accordingly. Hence *almost every one has two trees where they ought to have but one.* I know of some fine pear orchards that have double the trees they should have on the same ground, and by this method of setting trees, is made a great loss in the outset, two dollars for one, and then you can't get so good fruit, and there are other disadvantages by being so much crowded.

Respectfully yours,

PETER WAITE.

REPLY OF RENJAMIN P. WARE, OF MARBLEHEAD.

In reply to your questions of what pears I raise, and their culture, &c., I think we generally grow too many varieties of pears for profit. For Summer, I approve of Beurre Giffard, Clapp's Favorite, Golden Beurre. Fall: Bartlett, Seckel, Beurre Bosc, Sheldon, Beurre Clairgeau, Duchesse d'Angouleme. Winter: Beurre d'Anjou, Lawrence, Vicar of Winkfield. I grow many other varieties, but not of sufficient value to recommend for general culture. The above are all standard trees.

My soil is a strong kind, not subject to drought, with a subsoil of gravelly loam, some clay. The soil is enriched with a compost of barn manure and sea kelp, for five or six

Digitized by Google

years in succession, then rest in grass for three or four years. My trees are pruned a little annually in the spring; avoid cutting large limbs, by cutting out, while small, such as will interfere, when grown, with others.

My trees have been troubled by fire blight, so called, and more, I think, when manured the most; also somewhat by slugs in August. I know of no remedy for the blight. When attacked by it, the tree usually dies in about three years. I have tried cutting off the diseased branches, but with little success. The slugs may be destroyed by dust of any kind.

I think Standards the most profitable to set out for orchard culture, and Dwarfs for amateurs, or small gardens. Standards will produce larger results, and are more easily cultivated.

Summer and Fall pears should be picked when they begin to drop, which is before they are ripe; Winter pears about the middle of October. Summer pears ripen in about a week, and Fall pears in about two weeks after picking.

Pears should be picked carefully into boxes or barrels and placed in a cool, dry, (*i. e.*) not damp cellar, not allowing them to wilt by being too dry, and as near 35 or 40 degrees as possible.

For profit, only well known Standard varieties should be grown. The Beurre Giffard is good size and quality for an early variety; bears well. Clapp's Favorite comes next in ripening, is very showy, good quality, and productive. Bartlett is perhaps the most profitable of any, comes in bearing young, very productive and popular, large and showy, quality that almost every one admires. Seckel, best quality, prolific, sells well, very small unless thoroughly thinned out. Beurre Bosc is large and beautiful, sells well, but comes late into bearing; does well on gravelly sub-soil. Sheldon, very beautiful and fine, sells well. Beurre Clairgeau is a great bearer, commences young, very large and beautiful, but not of first quality; sells well. Duchesse d'Angouleme is lar-

Digitized by Google

gest size, fair quality, good bearer, sells well, does best on Dwarf stocks. Beurre d'Anjou is probably the best of all, bears well, keeps all winter under good conditions, or may be brought out in December, is large and very fine. Lawrence is excellent, aromatic, productive, keeps well, and is valuable. All pears should be thinned for the best results.

I am very happy to have received your circular, and have endeavored to briefly answer your inquiries.

Very respectfully yours,

BENJAMIN P. WARE.

REPLY OF T. C. THURLOW, OF WEST NEWBURY.

I raise the following varieties of pears, viz.:—On Standard trees—Bartlett, Sheldon, Lawrence, Buffum, Doyenne Boussouck, Clapp's Favorite, Onondaga, Seckel, Howell, and Abbott. On Standard and Dwarf trees—Beurre d'Anjou, Urbaniste, Rostiezer, Doyenne d'Ete, Belle Lucrative, and Vicar of Winkfield.

My soil, most of it, is strong clayey loam, part is *good* sandy or gravelly loam, but the first is best, the sub-soil is gravel, with a little clay. The soil is enriched once in three years, on an average. We would like to enrich every year, on the surface in the fall, with any kind of manure. I prefer to prune a little every year, in summer, say in June, though *early* in spring is a very good season. We have sometimes seen a very little of the blight, but not often; we have cut away and destroyed any diseased tree, or branch of a tree. The "Slug" sometimes troubles young trees. These can be easily destroyed by dusting them with a little dry ashes, or air slacked lime. No other insect troubles our pear trees to any extent. For the most profitable pear trees to set out, I should generally prefer Standards, and should recommend them to my customers, because they are hardy, and will last longer, under ordinary cultivation. The Dwarf pear, especially on the quince, is very liable to be killed in the root, and is short lived generally. I pick the summer

Digitized by Google

and fall varieties one or two weeks before they are ripe. The winter varieties we leave on the trees as long as possible, or till there is danger of freezing. It depends upon the weather and circumstances, how long after picking they are ripe enough for eating. We keep them best and longest in a cool, dry place, in thin layers. Winter pears should be barreled up and put in a cool, dry cellar.

The ten varieties recommended for profit by me, are, Bartlett, Lawrence, Beurre d'Anjou, Sheldon, Belle Lucrative, Beurre Bosc, Duchesse, Louise Bonne de Jersey, Bloodgood, and Seckel, in the order named, because these are the most hardy, productive, and popular in the market.

I think if you should recommend to the Society in your report, some changes in the *arranging* of the fruit, so that all the *varieties* may be put together, it would be an excellent plan.

Very respectfully,

T. C. THURLOW.

REPLY OF AARON LOW, OF ESSEX.

I have raised the following varieties of pears, viz.:—Bartlett, Sheldon, Buffum, Louise Bonne de Jersey, Stephens's Genessee, Beurre Diel, Beurre d'Anjou, and Lawrence, on Standard trees; and Buffum, Duchesse d'Angouleme, Louise Bonne de Jersey, Vicar of Winkfield, and Winter Nelis, on Dwarf trees.

The soil on which they were grown was rather heavy loam, with a clay sub-soil, enriched *yearly* around small trees, and *every other year* around larger trees, with stable manure, ashes, and bone dust.

I prune lightly every spring; have not been troubled with blight or insects.

The most profitable pear trees to set out are Standards for most kinds: Dwarf for the Duchesse and Vicars.

I pick my fruit when they will part freely from the tree.

Digitized by Google

Different kinds of pears vary in ripening; some are ripe in a week or two after picking, others will keep a number of months, keeping best and longest when kept *as cool as possible.*

The ten varieties recommended by me for profit are Bartlett, Sheldon, Louise Bonne de Jersey, Belle Lucrative, Buffum, Beurre d'Anjou, Beurre Bosc, Duchesse d'Angouleme, Lawrence, and Vicar of Winkfield.

Pear trees should not be manured very heavily, for the reason if they make too large a growth they are more apt to winter-kill, as the wood does not get hardened up and ripe enough to withstand severe cold.

Bartletts, Louise Bonne de Jersey, Buffum and Vicar, do better if the fruit is *thinned out when small*, as these varieties are very apt to overbear.

The above are brief answers to your questions, which, if of any benefit to pear raisers, I shall be well paid for writing them.

Yours truly,

AARON LOW.

REPLY OF J. HENRY HILL, OF AMESBURY.

(Received after Report had been sent in.)

I exhibited the following varieties of pears at the County Fair, at Lawrence, viz.:—Sheldon, Belle Lucrative, Lawrence, Dana's Hovey, Swan's Orange (or Onondaga), Stevens's Genessee, Mount Vernon, and Winter Nelis, *all raised on Standard trees*, and Louise Bonne de Jersey, Urbaniste, Doyenne Boussouck, Beurre Diel, Duchesse d'Angouleme, Andrews, Beurre Bosc (double worked), Buffum, Beurre d'Anjou, Glout Morceau, Seckel, Beurre Langelier, Bartlett, Beurre Clairgeau, Vicar of Winkfield, and Nouveau Poiteau, *all raised on Dwarf trees.* The soil is a gravelly and clay loam, with a sub-soil from a coarse gravel to a hard clay, enriched annually with stable manure and ashes. I have never used any commercial fertilizers on my trees, but consider

Digitized by Google

flour of bone and German salts good for all varieties of fruit.

I give my trees an annual pruning, using *a sharp knife.* I do not let any limbs get large that should be removed, but do it when small, and then it will make no difference when they are cut. If the tree has been neglected until the limbs that should have been removed grow large, I would advise cutting them either in November or June. My trees have been free from blight and insects.

The most profitable tree to set out depends on the nature of soil, amount of land to be planted, and number of varieties wanted. For heavy clay loam, I should plant Dwarfs. For light, gravelly or sandy soil, plant Standards by all means; because Standards in the garden would require too much garden room and give too few varieties, while Dwarfs, properly planted, (two inches below the union,) can be set closer, giving a larger number of varieties and quicker returns.

When, by taking hold of the pear, it will readily separate from the stock, then I consider is the proper time to pick the pears. It depends on the temperature of the weather whether warm and dry, or cool and moist, how long after picking they will be ripe enough for eating.

I keep them best in my cellar, which is cool and dry, keeping them in shallow boxes, closely covered. I put a half-inch of hard wood saw-dust in the bottom of the box, laying the pears in very carefully to the depth of four to six inches, then cover with paper, placing a mat or blanket over the paper to keep all close.

The ten varieties of pears I would recommend for profit are Doyenne d' Ete, Beurre Giffard, Bartlett, Seckel, Sheldon, Swan's Orange, and Lawrence, on Standards. Louise Bonne de Jersey on Dwarfs, and Rostiezer, Beurre d'Anjou and Mount Vernon on Standards or Dwarfs; because the above varieties do well in almost all localities.

A person who is about setting pear trees, should be very particular in selecting the same,—never setting poor trees, as

Digitized by Google

they are dear at any price. Procure your trees of some responsible nursery-man, and if possible go and select the trees yourself and see them properly dug and packed. Having your ground thoroughly prepared, all mutilated roots should be smoothly cut, and you should see to it that the trees are properly set and the soil well packed about the roots. Then set a stake and secure your tree properly to it. Have the tops thinned out and cut back two-thirds of last year's growth, and then give good clean cultivation and an annual trimming and dressing.

J. Henry Hill.

Thinking that the recommendations of Hon. Marshall P. Wilder, President of the American Pomological Society, a gentleman who, although four score of years has passed over his head, has not wearied in imparting information in the direction which has been a specialty with him for many years, I addressed him a request, if not trespassing upon his valuable time, to give, for the benefit of our County Society, a list of the ten varieties of pears which, from his mature experience in pear culture, he considered the best for profitable culture, which elicited the following reply, too late to be forwarded with the Report of the Committee, but will make a *valuable annex*, and is submitted for that purpose.

D. W. Low, *Chairman.*

REPLY OF HON. MARSHALL P. WILDER.

Boston, Dec. 2, 1878.

Dear Sir:—The following list of pears comprises an excellent collection. They are all healthy trees, and the fruit is good, either for the table or market, in their season. Clapp's Favorite, Bartlett, Doyenne Boussouck, Paradise d'Automne, Merriam, Sheldon, Beurre Bosc, Lawrence, Beurre d'Anjou, Vicar of Winkfield, for baking, fine specimens are also good for dessert.

Clapp's Favorite, the best early large pear, should be gathered by 20th of August.

Doyenne Boussouck, splendid healthy tree, very produc-

Digitized by Google

tive, and salable in market. Half the crop should be gathered by the 25th of August, and ripened in the house, the remainder when the fruit comes to size, thus the tree is kept in bearing every year.

Merriam, one of the most profitable for market, on account of its fine golden russet color, which it assumes after it is picked.

Beurre d'Anjou, the best and most profitable, very late fall and winter variety, covering the months of November and December, and with care may be kept to February, popular throughout the United States, the most valuable pear that I have introduced in forty years.

The other varieties are too well known to need qualifications.

MARSHALL P. WILDER.

APPLES.

Your Committee have the pleasure to report that the quantity and quality of the entries in this department far exceeded those of previous years.

The superior quality of apples gathered from our own orchard, we attribute, in part, to the absence of the Codlin Moth, which has done much injury to the crops of other years; we did not find any in the traps and bandages that readily capture them if any appear. We believe one cause of the large proportion of cider apples in our orchards is that more fruit is allowed to remain on the tree than can mature; this may be prevented by judiciously thinning the small fruit, or what is better, the blossoms, before the fruit sets, and if, as some claim, this will give us a crop the next year, a double advantage will be gained.

550 plates were exhibited. The following premiums and gratuities were awarded:—

$3 each, first premiums for best dish of twelve specimens of the following varieties, viz.: To E. B. George, Groveland, Baldwin; John Titcomb, Groveland, Hubbardston; Thomas A. Sides, Groveland, R. I. Greening; S. B. George, Grove-

Digitized by Google

land, Porter; John P. Foster, North Andover, Roxbury Russet; S. B. George, Groveland, Hunt Russet; T. K. Leach, Topsfield, D. W. Sweet; S. M. Titcomb, West Newbury, Drap d'Or; Peter Wait, Danvers, Pickman Pippin; Charles Perley, Boxford, Sweet Baldwin; D. W. Low, Gloucester, William's Favorite; Mrs. John Taylor, Amesbury, Gravenstein; J. Henry Hill, Amesbury, Haskell's Sweet. Premium for the best twenty varieties, $8, J. H. Hill, Amesbury; for best fifteen varieties, David W. Low, Gloucester, $6; for best ten varieties, Charles C. Blunt, Andover, $4; for best twenty-four specimens of apples, W. W. Perkins, Newbury, $6.

Gratuities of $1.50 each, to Peter Wait, Danvers, Minister Apple; E. B. George, Groveland, Northern Spy; E. F. Webster, Haverhill, New York Greening; Mrs. A. R. Warren, Lawrence, Pound Sweeting; Joseph Pratt, Lawrence, Maiden's Blush; Charles Perley, Boxford, President; W. J. Brown, Bradford, Crimson Bough; Z. C. Wardwell, Groveland, Summer Queen; B. F. Huntington, Amesbury, Ladies' Sweet; B. F. Huntington, Amesbury, Alexander; E. B. George, Groveland, Russet Sweet; S. M. Titcomb, West Newbury, Garden Royal; John C. Webster, Methuen, Blue Pearmain; Z. C. Wardwell, Groveland, Crab; Z. C. Wardwell, Groveland, Wagner.

Best assortment of Crab Apples, J. H. Hill, Amesbury, premium, $5; H. N. Chubb, Lawrence, Crab Apples.

Gratuities of $1 each to the following: Virgil Dow, Methuen, Porter; John P. Foster, North Andover, Sweet natural fruit; T. O. Wardwell, North Andover, Sweet natural fruit; E. G. Hardy, North Andover, King Apple; John Barry, Andover, Twenty Ounce; J. M. Jones, Groveland, Hubbardston; J. Henry Hill, Amesbury, Rhode Island Greening; H. A. Prescott, Lawrence, Hubbardston; S. F. Newman, Newbury, R. Russet; F. P. Putnam, Danvers, Hunt Russet; A. H. Gould, Topsfield, Danvers Winter Sweet; E. Woodfull, Lowell, E. Spitzenburg; Peter Wait,

Digitized by Google

Danvers, Twenty Ounce Pippin; Frank Goodson, North Andover, Gravenstein; M. S. Jenkins, North Andover, R. Russet; Z. C. Wardwell, Groveland, Crab; Horace Ware, Marblehead, Baldwin; Geo. W. Chadwick, Boxford, R. Russet; George A. Rea, North Andover, Fall Harvey; John Barry, Andover, Porter; Morris Murphy, North Andover, Gravenstein.

G. W. GAGE, *For the Committee.*

PEACHES, GRAPES AND ASSORTED FRUITS.

The Committee on the above named articles respectfully report that they were much disappointed in the exhibition of peaches, the specimens presented being inferior to what might have been expected in a season more favorable than most years to this fruit. No specimens of any white fleshed peach, or of any Essex County Seedling, were shown, which the Committee thought worthy of the premium. The latter failure they particularly regret, as they deem the production of new varieties of this fruit, of superior quality, and hardy and *healthy* in the tree, a most desirable object Even if such varieties are not sufficiently distinct to be worthy of propagation, the growers will be fully rewarded by the possession of trees which will probably produce more abundantly and give more satisfaction than grafted trees. But great care should be taken to plant seed only from trees showing no sign of disease. A large proportion of the peaches which have come under the eye of the writer the present season, have, in their premature ripening, pimply and spotted surface, and stained flesh, shown marks of the yellows—a fatal disease. We repeat, therefore, that the utmost care should be taken to propagate, whether by seeds or buds, only from perfectly healthy trees.

The season has not been favorable for grapes, and here at the northern limit of grape culture, we cannot in such a sea-

Digitized by Google

son, expect a satisfactory exhibition of this fruit. Even the Concords were not up to the standard of that variety. The Committee regret that they were unable to award the premium for the best collection, only one lot containing the requisite number of varieties having been presented, and this not coming up in other points to the requirements of the offer. The Committee, however, think the exhibitor of this collection entitled to great credit for the pains taken to display it, and as they believe much instruction may be derived from such a collection, they have given it the largest gratuity awarded, and as they deem it desirable to add to the number of early varieties, adapted to this latitude, they would especially mention one variety, the Warden, of which good specimens were contained in this collection, as early, and as giving promise of value in other respects. Another variety of similar promise (though not exhibited on this occasion) is the Moore's Early, which the Committee recommend for trial.

Your Committee would take the liberty to remind exhibitors of the importance of showing the exact number of specimens—*no more* and no less—mentioned in the offer of the premium. If, for instance, a dish of grapes entered for premium contains more than four bunches, the comparison is made only with the best four, and all others are simply in the way of the Committee. But it should be understood that this remark applies only to fruits offered for premium, and that a dish presented for exhibition only may contain as many specimens as the exhibitor may choose.

Three baskets of assorted fruit were presented, containing a variety of handsome specimens and well arranged. All were so good that the Committee had much difficulty in deciding between them. If they may be allowed a word of criticism, they would say that, in their judgment, the colored and scalloped paper placed around one of them was hardly in better taste than the "bouquet papers" with which bouquets

Digitized by Google

are ornamented (?) by New York florists, but which are happily seldom seen here. A covering of green moss or trailing wintergreen would have been much more appropriate. Another basket was decorated with a row of pears around the outside, which were made to hang down by breaking the stems partly through—a violence which the Committee could not approve, and which, if unavoidable, should have been in some way concealed.

Your Committee regret to find themselves unable to speak in higher terms of commendation of the fruits submitted to their examination by those who have contributed of the best which their gardens afforded. They are aware that this inability is largely caused by an unfavorable season and not by any less of care or skill on the part of cultivators than usual. Though the skill of the gardener is most forcibly shown in counteracting the effects of unfavorable seasons, it cannot wholly overcome them. In what the Committee have said, they have been actuated only by a desire for improvement, which cannot be promoted by indiscriminate praise. But it is much pleasanter to praise than to point out defects, and your Committee trust that another year may bring a more genial season and afford the Committee appointed to pass upon these products an opportunity to congratulate the Society and the exhibitors upon a fuller exhibition and better specimens, more carefully displayed, than ever before.

The following premiums and gratuities are awarded:—

W. P. Bailey, West Newbury, best Yellow Flesh Peach, $2.

Premiums of $3 each for the following varieties of Grapes: H. H. Wright, Lawrence, Concord; H. H. Wright, Lawrence, Hartford Prolific; Mrs. D. H. Stickney, Groveland, Isabella; R. Goodwin, Haverhill, Delaware; S. J. Richards, Lawrence, Iona; L. Bradley, Methuen, Clinton; R. Goodwin, Haverhill, Diana; Peter Wait, Danvers, Israella; B. D. Beadle, Lawrence, Wilder (Rogers); E. Grimes, Methuen, Merrimac (Rogers 19); J. Henry Hill, Amesbury, Rogers

Digitized by Google

22. Theron Johnson, North Andover, for Cold House Grapes, second premium, $4. George W. Gage, Methuen, best basket of Assorted Fruit, $4; Peter Wait, Danvers, second best basket of Assorted Fruit, $3.

Gratuities are awarded as follows: H. B. Currier, Newburyport, Peaches, $1; I. H. Boardman, Newburyport, Crawford's Early, 50 cents; R. H. Call, Lawrence, Grapes, $1; G. W. Gage, Methuen, Concord Grapes, $1.50; G. W. Gage, Methuen, collection, $3; James Lawrie, Danvers, Delaware, $1.50; Z. C. Wardwell, Groveland, Delaware, 50 cents; L. K. Pemberton, Groveland, Hartford, $1; George Lightfoot, Lawrence, Concord, $1; H. H. Hall, Lawrence, Concord, 50 cents; Michael Madden, Lawrence, Diana, 50 cents; Peter Smith, North Andover, Black Hamburg, $2; H. B. Robie, Lawrence, Black Hamburg, $2; Mrs. G. R. Waterman, Lawrence, Syrian, $1; Peter Wait, Danvers, Orange Quinces, $2; Coolidge, Lawrence, Orange Quinces, 50 cents; H. A. Hale, Lawrence, Orange Quinces, 50 cents.

Robert Manning, Josiah Newhall, Jos. W. Ropes, W. H. B. Currier—*Committee.*

FLOWERS.

The following premiums and gratuities are awarded:—

T. D. Halley, best pair Parlor Bouquets, $3; T. D. Halley, best pair Hand Bouquets, $2; J. C. Craig, Lawrence, best Floral Design, $2; Emma H. Gage, Methuen, best Cut Flowers, $2. Mrs. Hill, Amesbury, best twelve Dahlias, $1; best twelve Gladiolus, $1; best twelve Petunias, $1; best display Pansies, $1; best twelve Phlox, $1. T. D. Halley, Lawrence, best twelve Verbenas, $1; M. E. Fuller, Middleton, Native Flowers, $1; Edward Flynn, Lawrence, best general display, $4.

Gratuities of $1 each were awarded to: Mrs. Weston, Danvers, Parlor Bouquets; J. G. Craig, Lawrence, Parlor Bou-

Digitized by Google

quets; N. E. Ladd, Groveland, Floral Design; Industrial School, Lawrence, Floral Design; Annie M. Greene, North Andover, Floral Design; T. D. Halley, Lawrence, Cut Flowers; Mrs. Waterman, Andover, fine display; T. D. Halley, Lawrence, fine display; Mrs. E. F. Childs, Lawrence, Winter Basket; Mrs. F. Symonds, North Andover, German Ivy; T. C. Thurlow, West Newbury, Evergreens; Mrs. T. F. Tuttle, Lawrence, 19 varieties Cactus.

Gratuities of 50 cents each were awarded to: M. J. Wilson, Methuen, Parlor Bouquets; E. W. Hatch, Haverhill, Parlor Bouquets; Emily Carlton, North Andover, Parlor Bouquets; Mrs. John Hoyt, Georgetown, Parlor Bouquets; J. G. Craig, Lawrence, Hand Bouquets; Mrs. Waterman, Andover, Hand Bouquets; S. M. Titcomb, West Newbury, Floral Design; M. J. Wilson, Methuen, Floral Design; Mrs. S. H. Harris, Methuen, Cut Flowers; Mrs. G. W. Chandler, Lawrence, Cut Flowers; Peter Smith, Andover, Dahlias; Jackson Webster, Haverhill, Dahlias; Nettie Buckell, Dahlias; Addie Page, Groveland, Petunias; Emily Gage, Methuen, Petunias; Nettie S. Webster, Haverhill, Pansies; Herman Juenger, Lawrence, Pansies; J. G. Craig, Lawrence, Pansies; Nettie S. Webster, Haverhill, Phlox; J. G. Craig, Lawrence, Phlox; Peter Smith, Andover, Verbenas; J. G. Craig, Lawrence, Verbenas; Emily Carleton, North Andover, Native Flowers; J. G. Craig, Lawrence, Heliotrope; Alice Moore, Caladium; Alice Clark, Lawrence, Caladium; Mrs. H. M. Porter, Lawrence, Squills; Mrs. Waterman, Andover, Dracena; Mrs. Dr. Kenny, Lawrence, Century Plant; Geo. E. Morris, not entered, Fernery; Mrs. Keniston, Methuen, Fig Tree; Edward Flynn, Lawrence, Coleci; J. H. Reynolds, Lawrence, Geranium; E. F. Webster, Haverhill, Rustic Stand; Mrs. Wm. Russell, Lawrence, Palms; Hattie Green, Andover, Basket Everlastings; C. A. Lyons, Lawrence, English Ivy.

Gratuities of 25 cents each awarded to: Herman Juenger Lawrence, Datura; Peter Smith, Andover, Heliotrope; Mrs.

Digitized by Google

M. E. Fuller, Middleton, Dried Bouquets; Nettie Webster, Haverhill, Pinks; Ed. Flynn, Lawrence, Tritonia; Lucy Chubb, Lawrence, Balloon Plant; Mrs. Jane Sweet, Lawrence, Irish Shamrock; E. J. Farwell, Lawrence, Cactus; Edith Nason, West Boxford, Fernery; E. Webster, Haverhill, Coxcombs; T. H. Kelley, North Andover, Princess Feather; Lydia Griffin, Lawrence, Cactus; Lizzie Maine, Lawrence, Or. Pine; C. M. Godkin, Haverhill, Bouquet; Mrs. F. Symonds, North Andover, Geranium; —— Coanes, not entered, Cactus; Sarah J. Williams, Lawrence, Jerusalem Cherry.

The display in this department was much finer and more extensive than that of last year. Many of the contributions showing much artistic taste were passed by the Committee with a small gratuity, owing to the large number of contributions and the small amount of money allowed, $50 being the appropriation.

The Committee desire to offer the following suggestions: As this department is one of the most attractive features of the Show, it seems to them desirable that a larger amount of money should be appropriated to it. It may not be necessary to increase the premium in amount, but there should be money enough to give something to a larger number of the contributors than can be done with the amount now allowed.

Your Committee also think first and second premiums should be allowed for bouquets, as it was so difficult in many instances to decide between bouquets of nearly equal beauty. It also seemed to them the premiums for native flowers are much too small, when we consider the great amount of labor involved in making such a collection.

Separate premiums, we think, should be awarded for green-house bouquets and those of garden culture. It is impossible for flowers grown in home gardens to compete with those grown in the green-house.

Your Committee would also suggest that the premiums for

Digitized by Google

Dahlias be stricken from the list. So many other flowers, more beautiful and popular, have taken their place in modern garden culture, and whatever premiums are given should be awarded to more desirable varieties of flowers.

Your Committee found their duty one of considerable difficulty and labor, and desire to return their thanks to Mr. Edward Flynn, for his valuable assistance.

The exhibition made by A. H. Dunlap & Son deserves honorable mention, although under the rules no premium could be awarded them. Their exhibit of Asters, Larkspurs, Snapdragons, etc., was especially fine.

For the Committee,

MRS. JOSEPH S. HOWE, *Chairman.*

VEGETABLES.

The Committee report premiums and gratuities as follows:

Premiums of $3 each to Levi Emery, Lawrence, Early B. Beet; M. F. Batchelder, Peabody, Short Horn Carrot; Charles R. Anderson, North Andover, Long Orange Carrot; T. O. Wardwell, North Andover, Mangold Carrot; H. A. Styles, Middleton, Purpletop Turnip; Byron Chadwick, Boxford, Yellow R. Baga; M. F. Batchelder, Peabody, Parsnips; R. Goodwin, Haverhill, Danvers Onion; Granville Bradley, North Andover, E. R. Potatoes; Moses B. Abbott, Andover, Savoy Cabbage; B. P. Ware, Marblehead, Fotler's Drumhead; Herman Phelps, Andover, Stone Mason; M. F. Batchelder, Peabody, Red Cabbage; Moses B. Abbott, Andover, Cauliflower; J. W. Bailey, Bradford, Field Corn; Levi Emery, Lawrence, Sweet Corn; J. G. Craig, Lawrence, Pop Corn; Levi Emery, Lawrence, Marrow Squash; David Warren, Marblehead, Turban Squash; David Warren, Marblehead, Marblehead Squash; Byron Chadwick, Boxford, Tomatoes; Aaron Low, Essex, Red Flat Tomatoes; Aaron Low,

Digitized by Google

Essex, Spherical Tomatoes. Scott & Veitor, Lawrence, best collection Garden Seeds, $8.

A second premium of $2 each to M. F. Batchelder, Peabody, Savoy Cabbage; Moses B. Abbott, Andover, Brunswick Cabbage; M. F. Batchelder, Peabody, Brunswick Cabbage; C. R. Anderson, North Andover, Red Cabbage; C. R. Anderson, Andover, Cauliflower; Edward Rostron, Lawrence, Celery; J. G. Chadwick, North Andover, Water Melon, first premium; M. F. Batchelder, Peabody, Hubbard Squash.

Gratuities of $2 each to Aaron Low, Essex, greatest variety; Industrial School, Lawrence, Vegetables; E. G. Nason, West Newbury, Wheat Seed; E. G. Hide, Danvers, Vegetables; E. F. Webster, Haverhill, variety Seeds.

$1 each to M. F. Batchelder, Peabody, Long B. Beet; George R. Bradley, Methuen, White Ruta Baga; R. T. Jaques, West Newbury, Danvers Onion; R. S. Bray, West Newbury, Danvers Onion; M. F. Batchelder, Peabody, Yellow Flat Onion; Andrew Lackey, Haverhill, Burbank Onion; George W. Chandler, Boxford, Brownell's Beauty Onion; Frederick Symonds, North Andover, Potatoes; S. Longfellow, Groveland, Trace Corn; David Warren, Marblehead, Hubbard Squash; D. W. Low, Gloucester, Cape Ann Squash; M. F. Batchelder, Peabody, Canteloupe Melon; Eben Grimes, Methuen, Citron Melon; C. M. Abbott, Andover, Watermelon; A. M. Robinson, Andover, Tomatoes; Chas. S. Clark, Lynnfield, Cranberries; Virgil Dow, Methuen, variety Vegetables; S. R. Bodwell, Andover, Corn; Willis Lassiter, Andover, Sweet Potatoes; Herman Phelps, Andover, Sweet Potatoes; Nathan C. Abbott, Andover, Crookneck Squash; M. F. Batchelder, Peabody, Crookneck Squash; E. Tennant, Lawrence, Onions; Moses B. Abbott, North Andover, Lima Beans; Charles R. Anderson, North Andover, Endive; M. F. Batchelder, Peabody, Herbs; J. B. Knight, Newbury, Vegetables.

50 cents each to F. Kimball, Lawrence, Vegetables; Theron Johnson, North Andover, Celery; Daton Kilham, Box-

Digitized by Google

ford, Gourd; Nellie S. Stevens, Lawrence, Marrow Squash; Bernard Young, variety Vegetables; D. M. Nolan, Haverhill, Corn; C. F. Waitt, Danvers, Egg Gourd; G. W. Green, North Andover, Golden Millet; Theron Johnson, North Andover, Kohl; J. K. Chadwick, North Andover, Peppers; Henry Nice, Lawrence, Japanese Beans; S. M. Davis, Lawrence, Gourd Beans; G. S. Phippen, Methuen, Turnips; Aleck Burk, Peabody, Cauliflowers; J. G. Downing, Andover, Mangolds; John Lonergan, Lawrence, Beans.

COUNTERPANES AND RUGS.

WROUGHT COUNTERPANES.

1st premium, $4, to Mrs. A. C. Buckley, Danvers; 2d premium, $2, to Mrs. J. S. Arnold, Methuen. Gratuity of $1 to Mrs. A. J. Henry, West Boxford; Mrs. Harris, Lawrence; Mrs. Jane Williams, Lawrence; Mrs. Lydia Southwick, Lawrence. Gratuity of 50 cents to Mrs. S. W. Kendrick, Lawrence; Mary Curran, Haverhill; Abigail Boardman, North Andover; Mrs. Julia Seaver, Lawrence.

WROUGHT HEARTH RUGS.

1st premium, $3, to Mrs. Thos. D. Davis, Beverly. 2d premium, $2, to Mrs. John W. Frederick, Methuen. Gratuity, of $1 to J. Balch, Groveland; Mrs. D. R. Parker, Groveland. Gratuity of 50 cents to Mrs. B. F. Gorham, Lawrence; Mrs. Mary W. Leach, Methuen; Mrs. R. Wheelock, Lawrence.

F. E. Clark, H. A. Learoyd, Mrs. H. H. Proctor, Mrs. W. L. Bowdoin, Andrew Nichols—*Committee.*

LEATHER AND ARTICLES MANUFACTURED THEREFROM.

Your Committee on Articles Manufactured from Leather and Rubber award the following gratuities:—

To I. O. Nash, Lawrence, one light single Harness, gratui-

Digitized by Google

ty, $3. To E. A. Putnam, of Beverly, one heavy single Harness, $3. P. B. Robinson, of Lawrence, a very fine display of hand-made Boots and Shoes, and also a variety of Rubber foot wear, gratuity, $5.

Aaron Sawyer, I. H. Putnam, David Stiles.—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

J. A. Fogg, Lawrence, Brass Founders, $3; J. V. Carr, North Andover, Horse Shoes, $2; A. S. Bunker, Lawrence, Pea Sheller, Tobacco Cutter, Strawberry Huller, Raspberry Picker, and Paper Tunnels, $3; J. W. Bolton, Rockport, Tree Protector, $2; C. T. Morrison, Lawrence, Fret Sawing, $3; J. W. Marshall, Rockport, Railroad Gauge, $1; S. S. Hickock, Methuen, useful inventions for invalids, and other purposes, as Right and Left Bed Pans, Car Starter, Grape Shears, Boot Jack, and Stocking Puller, $3; John Stafford, Lawrence, Brushes, $3; Mrs. M. L. Caverly, Lawrence, Bonnets, $3; Mrs. A. W. Belcher, Lawrence, Bonnets, $2; Misses S. and M. Kay, Lawrence, Bonnets, $1.

Wm. D. Lamb, Charles Ingalls, E. G. Berry.—*Committee.*

FANCY WORK AND WORKS OF ART.

The committee make awards as follows:—

Gratuity of $3 to Mrs. Wilbur Jordan, Lawrence, Affghan. Gratuities of $2 each to Mrs. S. Henry Wilson, Lawrence, Embroidery; Mrs. A. P. Newhall, Lynn, Ink Marking; Miss Mary Coffin, Lynn, Ink Marking; Mrs. S. M. Beach, Lawrence, Knitted Cover; John Gill, Lawrence, Embroidery; Mina Kelley, Pillow Lace; M. J. Eastman, Lawrence, Lace Work; Chester Chubb, Lawrence, Agr. Wreath; Eliza Trask, Danvers, Pillow Shams.

Gratuities of $1 each to M. I. Tucker, Lawrence, Worsted Work; Lizzie Huse, Lawrence, Lace Work; Mrs. S. M. Colby, Lawrence, Lace Work; Lillie Hammond, Andover,

Digitized by Google

Crochet Work; Mary Furbush, Lawrence, Embroidery; Mrs. C. M. Arthur, Lawrence, Embroidery; Mrs. Augusta Gage, Lawrence, Embroidery; Miss B. M. Gilbert, Haverhill, Embroidery; Lucy A. Chubb, Lawrence, Hair Chairs; Mrs. R. Flanders, Lawrence, Preserved Flowers; Mrs. S. Webster, Methuen, Hair Work; Mrs. Edgar E. Mann, Lawrence, Worsted; Mary T. Conway, Worsted Pictures; Hattie L. Green, Lawrence, Immortelles; Mrs. L. Chase, Haverhill, Embroidery; Mrs. Carlton Grimes, Lawrence, Embroidery; Mrs. Margaret Longley, Haverhill, Knitted Shawl; Emily F. Carlton, North Andover, Tatting; C. W. Mann, Lawrence, Drawing; Georgie E. Briggs, Lawrence, Shams, &c.; Mrs. O. F. Churchill, Lawrence, Shawls; L. A. Cummings, Andover, Embroidery; M. L. A. G. Saunders, Lawrence, Embroidery; Mrs. E. G. Woodward, Haverhill, Mrs. J. H. Kendall, Lawrence, Mr. E. C. Colby, Lawrence, W. H. Barker, Methuen, Mrs. E. Palmer, Lawrence, Mrs. Olivia S. Holmes, Lawrence, each Work of Art.

Gratuities of 50 cents each to Mary Flavel, Lawrence, Tidy; Clara Lang, Lawrence, Tidy; Chas. Runlett, Haverhill, Silk Box; Emma I. Smith, Lawrence, Worsted Work; E. R. Merrill, Lawrence, Wax Work; N. M. Clark, Lawrence, Fancy Basket; M. A. Wood, Lawrence, Mottoes; Mrs. Dorcas Osgood, North Andover, Embroidery; Laura Ames, Lawrence, Worsted Work; Lottie Upton, Lawrence, Worsted Work; Abby Kelsey, Lawrence, Feather Flowers; Etta McGibbon, Lawrence, Feather Flowers; Mrs. E. C. Colby, Lawrence, Miss Lizzie Woodford, Lawrence, Mrs. Christopher Howe, Methuen, Miss Daisy Blanchard, Methuen, S. T. Woodbury, Lawrence, Miss Lizzie Currier, Lawrence, John W. M. Smith, Lawrence, Miss S. C. Lane, Lawrence, each Work of Art. Honorable mention is made of the works by the following persons: Mrs. A. P. Clark, Mrs. G. W. Russell, Baldwin Coolidge, John H. Gilman, Willis H. Plummer.

For the Committee,

MRS. A. P. CLARK.

Digitized by Google

CHILDREN'S WORK.

Work by children under twelve years of age—Alice A. Hale, Georgetown, 5 years, Quilt, first premium, $3.00; Gracie M. Spofford, Georgetown, 9 years, Stockings, second premium, $2.00; Gertrude G. Chadwick, West Boxford, 11 years, Braided Mat, third premium, $2.00.

The following gratuities were awarded:—Freddie H. Clark, Lawrence, 9 years, Painted Tiles, $2.00; Eddie Morgan, Lawrence, 11 years, Mottos, $1.00; Emma Burnley, Lawrence, 12 years, Mottoes, $1.00; Minnie M. Holt, Lawrence, 11 years, Match Safe, $1.00; Ethel M. Emerson, Lawrence, 7 years, Picture Frame, $1.00; Maud V. Rodinizer, Lawrence, 12 years, Lace Work, $1.00; Lillian Colby, Lawrence, 5 years, Scrap Bag, $1.00.

MRS. J. S. SHATTUCK and others, *Committee.*

FARMS.

The only Farm entered was that of Mr. Samuel Dane, of Hamilton. Three members of the Committee have visited this farm during the season; two of them at haying time, and one of them later.

Mr. Dane's farm and farming lands comprise about sixty acres in all, somewhat over thirty of them making the homestead. When Mr. Dane purchased his place, the land was to a large extent a waste, but poorly fenced, and the buildings in very poor repair. The improvements have been in clearing the land of trees and bushes, the underdraining and reclaiming of most of the land in tillage; erecting a substantial stone fence, over four feet in height, around most of the premises, enlarging and materially improving the farm-house, the erection of various outbuildings, and the building of a large and elegant centennial barn.

The farm has but few fruit trees, and the quantity of stock kept on the premises has varied from two to four cows and

Digitized by Google

from two to four horses. The Committee found everything about the barn arrangement very judiciously planned, and everything about the farm in good order.

The Committee have hesitated about the propriety of recommending the premium to a farm so much below the average in the quantity of the stock and orcharding; but on reflection, considering that this deficiency is more than made up by unusually large portion of reclaimed land, they would recommend that a premium of thirty dollars be awarded by the Trustees. The Committee noted with great pleasure the magnificent elms, bordering the main road, which Mr. Dane has preserved with a care most praiseworthy, and they consider that they come fairly into the class of facts which make up the best conducted and most improved farm within a wise interpretation of the premium.

For the Committee,

J. J. H. Gregory.

GRAIN CROPS.

The Committee on Grain Crops report seven entries, classed as follows, viz.:—Four of Rye, by Messrs. Rolfe and Knight of Newbury, Bailey of West Newbury, and Dane of Hamilton. Corn, two entries, by Abel S. Harriman of Groveland, and John Pearl of Boxford. Wheat, one entry by Nathaniel Little, Jr. of Newbury. Your Committee have met five times to view the same and make their awards, which are as follows:—

Rye, first premium, $10, to J. B. Knight of Newbury, whose statement, together with that of Mr. Dane, is annexed.

Mr. Rolfe's crop did not come within the rules of the Society, as it contained only one-half acre. But your Committee would feel that an injustice had been done Mr. Rolfe if honorable mention were not made of the crop, which they hereby do. Had it contained the full acre, Mr. Rolfe would

Digitized by Google

undoubtedly have received the premium. Mr. Dane's crop was good, but the heads were not well filled, the straw was heavy—some of it measuring 6 feet, and 8 inches in length. His crop would have been much larger had it not been for the severe drought. Mr. Bailey's crop looked well, but he failed to put in a statement.

Wheat, first premium, $10, to Nathaniel Little, Jr., of Newbury. Mr. Little had an excellent crop, and we refer to his statement, where full particulars will be found.

Corn, first premium, $10, to John Pearl, of Boxford.

We recommend a gratuity of $6 to Abel S. Harriman, of Groveland. Mr. Harriman's corn was planted in drills, and showed the effects of good cultivation, as does everything about his farm. Mr. Pearl's crop was a little larger than Mr. Harriman's, and filled out better. When everything is taken into consideration, the crop is wonderful. Planted June 11th, on a wet and very stony piece of pasture land that had never before been ploughed, and scantily manured at that, the crop of eighty-seven bushels of dry shelled corn on one acre is remarkable. Had the season been wet, instead of dry, your Committee are of the opinion that Mr. Pearl would not have raised a sound ear of corn on the whole acre.

In our trips about the county we noted, with no small amount of satisfaction, the large increase in the average of grain, for it seemed to denote that returning to the "dollar of our daddies," also brings us back to the good old ways of "our daddies." The hue and cry of old fogyism in our style of farming, lasted too long, and we hail with joy the fast approaching time when every farmer "shall produce that which he consumes."

In the cultivation of grain we are not only producing, as a country, what we consume, but we are, to a greater extent than many are aware, feeding the people of other countries. The importance and magnitude of our grain crop cannot be over-estimated. The last monthly report of the Department of Agriculture estimates this year's wheat crop at 400,000,000

Digitized by Google

bushels, the corn crop at 1,300,000,000 bushels, and an oat crop in excess even of the very large product of last year. The estimate of the wheat crop, two months ago, was 407,000,000 bushels, or 87,000,000 bushels more than the yield of 1877.

During the last six years we have more than doubled, nearly trebled, our exports of corn, wheat and flour, sending abroad last year no less than 85,000,000 bushels of corn, 4,000,000 barrels of flour, and about 100,000,000 bushels of wheat.

Are not these statistics well calculated to make the American farmer proud of his vocation and prouder still of his country?

Horace F. Longfellow, Hanson Ordway, Charles Perley, Sidney F. Newman—*Committee on Grain Crops.*

Byfield, Nov. 9, 1878.

STATEMENT OF J. B. KNIGHT.

Statement to the Essex Agricultural Society of a crop of Rye raised by J. B. Knight, of Newbury, 1878.

The crop of 1876 was potatoes; twenty loads, 30 bushels per load, of barn-yard manure, was put on and ploughed in. The crop of 1877 was oats, with ten loads of manure per acre ploughed in, valued at four dollars per cord. The soil is a gravelly loam, with a gravelly sub-soil. The oats were cut before they headed, and when again grown were ploughed in six inches deep, and once harrowed, the middle of September. Cost of ploughing, three dollars per acre.

Rye mixed with an equal quantity of wood ashes, and moistened, was sown, two bushels of seed per acre; value of Rye one dollar per bushel. It was harrowed twice after sowing, at a cost of one dollar per acre for sowing and harrowing. It was harvested by reaping the first of August, at a cost of four dollars per acre for reaping and binding. Cost of threshing by hand, five dollars per acre; amount of straw, one and three-fourths tons.

Digitized by Google

Remarks.—In consequence of the quantity of seed sown the straw was quite thick on the ground, as your Committee saw at the time of their visit, but it did not lodge, and it was pretty well filled out, although it was somewhat pinched by the dry weather coming a little too soon for it to fill plumply.

J. B. KNIGHT.

By this I certify that I measured one acre of Rye ground for James B. Knight, of Newbury, in August, 1878.

N. LITTLE, JR.

I hereby certify that I measured the Rye grown on the above mentioned acre of ground—44 12-56 bushels.

PAUL A. PERKINS.

STATEMENT OF SAMUEL DANE.

The acre of Rye which I enter for premium, was cradled and threshed in August; of which I had 31 1-2 bushels of nice Rye; the weight of the straw was 3,650 pounds. The land where raised was light and loamy, nearly worn out land. It was ploughed last year and planted with potatoes, manured in drills, with about three and a half cords of barn-yard manure and meadow-muck compost, from which I raised a good crop of potatoes.

Ploughed again in September and about two cords of the above compost harrowed in, and sowed down to rye and grass seed.

EXPENSE OF RYE CROP.

Dr.

To 2 cords manure, at $7,	$14 00
Ploughing and harrowing	3 50
Seed, sowing, &c.	2 00
Cradling, storing, &c.	3 50
Threshing	2 50
Total	$25 50

Digitized by Google

Cr.

By 31 1-2 bushels Rye at 90 cents	$28 35
3,650 pounds straw (at barn) at $15 00	27.37
Total	$55 72
	$25 50
Net proceeds, or profit	$30 22

I have straw taken from the ground by the Committee, that measures 6 feet 8 inches long.

SAMUEL DANE.

Hamilton, July, 1878.

STATEMENT OF JOHN PEARL.

Statement concerning a crop of corn raised by John Pearl, in town of Boxford, year 1878.

The land used for the crop, previous to 1877, had never been in cultivation, but was a low piece of pasture land, covered with wild grass and bushes. In the fall of 1877 it was ploughed eight inches deep. In the spring of 1878 harrowed with wheel harrow. Soil dark, with a clay bottom. Planted June 11th, 3 feet 8 inches apart each way, with 5 quarts 8 rowed yellow corn.

Cost of ploughing, harrowing and planting	$11 70
" " cultivating and hoeing once	3 00
" " 3 cords stable manure in hill	24 00
" " 5 quarts of corn for seed	20
" " harvesting	10 00
Amount of fodder estimated at 4 tons	24 00
" " crop 87 1-7 bushels.	

JOHN PEARL.

STATEMENT OF N. LITTLE, JR.

The land has produced a crop of onions for two years previous, that is in 1876 and 1877, and received for dressing

Digitized by Google

about twenty loads of barn-yard manure each year. Soil, a rich, black loam, on a clay sub-soil.

The method of treatment for the present year was simply once ploughing about six inches deep, and harrowing twice before sowing, then sowed one bushel and three pecks of seed, and harrowed twice alternately cross-wise; sowed grass seed, and lastly rolled the ground once with a heavy ox-roller. No manure whatever used.

Result.—The yield on one hundred and seventy-five rods of land was 2522 pounds of wheat, or forty-five bushels and two pounds; of fifty-six pounds to the bushel. (The kernel was badly pinched, supposed by the severe drought in July.) Three tons of straw, thirty-seven hundred weighed, the balance estimated.

Dr.

To ploughing	$ 3 00
harvesting	1 00
seed and application	5 00
harvesting and threshing	10 00
Total	$19 00

Cr.

By forty-five bushels wheat at $1.50	$67 50
three tons straw at $12.00	36 00
Total	$103 50
	$19 00
Profit	$ 84 50

Respectfully submitted,

N. Little, Jr.

Newbury, Nov, 5, 1878.

This certifies that the above measurement of grain is correct.

N. W. Moody.

Digitized by Google

This certifies that the above measurement of land is correct.

SIDNEY F. NEWMAN.

ROOT CROPS.

There were but three entries made with the Committee this year. One of Early Rose Potatoes, by Mr. J. B. Knight, of Newbury, one of Onions, by Mr. G. A. Randall, of Newbury, and one of Cabbages, by Mr. J. J. H. Gregory, of Marblehead.

The Committee visited the several crops entered, and although there was not any competition, we considered each and all worthy of the first premium.

The statements of the method of cultivation, amount of the several crops, and the cost of producing the same, are hereunto annexed, and the Committee award as follows:—

To Mr. J. B. Knight, of Newbury, for his crop of Early Rose Potatoes, the first premium of $10.

To Mr. G. A. Randall, of Newbury, for his crop of Danvers Onions, the first premium of $10.

To Mr. J. J. H. Gregory, of Marblehead, for his crop of Cabbages, the first premium of $10.

Aaron Low, James P. King, Albert Titcomb, John Price —*Committee.*

STATEMENT OF J. B. KNIGHT.

Statement concerning the crop of Early Rose Potatoes entered for premium: The crop of 1876 and 1877 was grass, no dressing applied; the soil is a rather heavy loam. For the crop of 1878 the ground was ploughed in the Fall of 1877 seven inches deep, at the cost of four dollars per acre. About eight cords per acre of barnyard manure was hauled on the ground in the Spring of 1878, at an estimated value of four dollars per cord, and cut in with the wheel harrow.

Planted with Potatoes the first and second week in May,

Digitized by Google

using the small or medium size, taken from the pile put in, in the Fall, for market; about twelve or fourteen bushels per acre, at an estimated cost of twelve dollars per acre, for seed and planting. They were planted in rows three feet apart, and three feet between hills. The cultivator was passed between the rows before the potatoes came up; after they came up they were cultivated and hoed twice, at a cost of six dollars per acre. They were harvested the latter part of September, at a cost of eight dollars per acre.

Remarks.—A part of this piece was planted with one potato, of small or medium size, in a hill, and a part with a large potato, cut in two, with one piece to a hill. Where the whole potato was planted, the appearance for the first part of the season was much more forward than where the piece was planted, and I think that a good start in the Spring has much to do with the crop late in the season, and the harvesting of this crop goes far to confirm this opinion.

Respectfully submitted,

J. B. KNIGHT.

This certifies that I have measured a piece of ground on which the above crop was grown, and there were ninety-four rods in said piece.

N. LITTLE, JR.

I hereby certify that I measured the potatoes grown on the before-mentioned piece of land, and there were one hundred sixty-four and one-half bushels, of sixty lbs. to the bushel, of merchantable potatoes.

JEREMIAH MAHONEY.

STATEMENT OF G. A. RANDALL.

Statement of G. A. Randall, concerning a crop of Onions raised in 1878, in the town of Newbury.

The crop raised upon this land the past three years has been Onions. The ground was ploughed in the fall of 1877 and manured with compost manure, about one part fish and

Digitized by Google

four parts cow and horse manure, which was spread on top after ploughing, at the rate of about eight cords to the acre, and laid until spring, and was then ploughed in, the land harrowed, brushed, raked, and sowed at the rate of four pounds of seed to the acre. Land rather light loam. The crop was hoed six or seven times with a wheel hoe, and weeded three times.

This half acre was surveyed by J. N. Rolfe, and is a part of a six acre bed, and I think four acres of it produced nearly as many Onions per acre, as the half acre which I enter for premium. The crop was harvested about September 10th, two loads were weighed by Daniel Lunt, the others were loaded as near as possible, in the same carts, making 307 bushels on the half acre.

Cost of ploughing and harrowing	$ 4 00
" " raking and sowing	3 00
" " hoeing and weeding	20 00
" " harvesting	8 00
" " manure	24 00
" " seed	3 00

The crop has been sold at $2.10 per barrel, including barrel. The above statement is correct, to the best of my knowledge.

G. A. Randall.

STATEMENT OF J. J. H. GREGORY.

The crop of Cabbages entered for premium are the Early Brunswick, commonly known as the Fotler Cabbage. They were raised in Middleton, on "Bear Hill" Farm. The piece was of about two acres. It was planted from June 16th to 20th. Owing to the drought, nearly half of the piece had to be set with plants taken from the portion first planted, which, having the advantage of a shower just after the seed was put in the ground, came up very uniformly. More or less of transplanting was done up to the latter part of July, but the growing season being unusually prolonged, about every plant

Digitized by Google

on the piece made heads of good size and hard. Towards the close of the season, a few hundred were started to prevent the heads from bursting, but I have noticed that on what might be termed country farms, as distinguished from those on the sea-board, cabbages are far less likely to burst their heads, which I attribute to the fact that the ground is not so filled with manure, not having been so long in tillage, nor so highly manured by the annual dressing of the soil. This fact is of value to the farmer, as he can safely plant his late Cabbage earlier in the season, and get as large and as hard heads, as on the seaboard, with less manure; the extra length of season for their growth being an equivalent. In saying this, I would not be understood to state that large and hard heads can be got without liberal manuring, but simply that as the bursting of the heads being an end to all profitable growth, and they are more apt to do this, and at an earlier day on the rich lands of the sea coast, the country farmer can count on this extra season for growing as an equivalent for a proportion of the manure that his seaboard brother is compelled to use.

The land had for the two previous years been devoted to the growing of Onion seed, and had consequently received liberal manuring, though of the varieties and quantities applied I have no record. The soil being very moist, and having many large boulders, weighing from a few hundred pounds up to several tons, scattered over the surface, last spring I had it tile-drained and cleared of stone. In June I applied a compost, composed in part of fish waste and soil, and in part of glue waste and soil, about one part fish waste to four parts soil, and one part glue waste to two parts soil, six cords to the acre. This was ploughed in. After harrowing and furrowing out, I had applied to each hill—the rows were three feet apart and the hills nearly three feet—one-third of a shovelful of a compost made up of one part bone dust, well decayed, two parts Riverside super-phosphate, ten parts ashes, and twelve parts of the fish and glue compost. The

Digitized by Google

cost to me of the fish and glue compost was about three dollars a cord; that of the compost used in the hills very nearly two-thirds of a cent for each hill, the materials entering into it having been purchased wholesale.

The soil was strong loam, about seven inches deep, with a sub-soil of admixture of sand and clay. In preparing the land it was ploughed but once, about seven inches deep. The cost of ploughing, harrowing and furrowing, I should estimate per acre, at eight dollars. The quantity of seed was half a pound to the acre, at a cost of two dollars. The cost of planting the seed I should put at two dollars per acre. The crop was cultivated and hoed three times, at a cost of thirty dollars per acre. The thinning and transplanting I put at five dollars per acre. As the Cabbages were for seed purposes, the cost of harvesting could hardly be estimated. As to the value of the crop, at the time it was gathered seed Cabbages were worth about eight cents each in Boston market.

JAMES J. H. GREGORY.

NEW VARIETY OF WINTER APPLES.

On the latter part of the second day of the Fair, the attention of the Chairman of your Committee was called, by Mr. James W. Bailey, of Bradford, to a plate of apples (Ropes apple, so called) which he represented to be a new kind of fruit, for which he asks for the $100 premium.

The premium is large, and I think ought not to be paid until the apples are fully tested and proved to be of superior quality, and it will take years to prove the bearing qualities of the tree, and the keeping qualities of the fruit. I therefore thought it unnecessary to call on the other members of the Committee, as no premium would be awarded this year. Such measures can be taken hereafter as may be thought proper.

JOSEPH HOW, *Chairman.*

Methuen, Nov. 13, 1878.

Digitized by Google

INDIAN CORN.

At the meeting of the Trustees, in November, it was voted to refer to a Special Committee, the whole subject of the premiums offered to the Farmers' Club making the best exhibit at the Fair, at Lawrence, with written statements of the culture, varieties of corn, and products, that would show what variety is capable of the largest product per acre; to be submitted to the Committee on or before Nov. 1. The Committee thus appointed have carefully examined all the statements that have since been presented from members of the North Andover Farmers' Club, viz.:—Albert Berry, John P. Foster, J. D. W. French, Frederick Symonds, E. G. Green, Charles S. Foster, Charles F Bisbee, and also the report of the Committee of the West Newbury Farmers' Club, which is annexed.

It is quite apparent to the Committee that the object for which the premium was offered, has been entirely overlooked by the applicants, as in no instance can any one form an opinion from the statements made, what variety of corn will give the greatest yield, as no comparison has been made between the most popular varieties. As the conditions on which the premiums were offered, have not been complied with, nor the information sought obtained, the Committee do not feel authorized to award the premiums.

Within the last three years the corn crop has been receiving in Essex County more of the attention that its importance demands, than for many years previous. It is believed by the Committee that a difference in the quantity of product of from twenty to fifty per cent. may be obtained from the quality and variety of seed planted, thereby making it a very desirable and profitable crop, or one of disappointing results. Therefore your Committee feel the great importance of ascertaining by careful experiment, what variety will produce the largest profit, and it is hoped that the premiums offered may induce the necessary care to develop the desired information.

Digitized by Google

The Committee would suggest for the guidance of future applicants, that the only way to obtain satisfactory evidence, is to plant several varieties of corn that are well known to be productive, on land of similar quality and location, with the same fertilizer and cultivation, and carefully note the results by weight.

Benjamin P. Ware, Charles P. Preston—*Committee.*

REPORT OF THE WEST NEWBURY FARMERS' CLUB.

The Corn offered to the Essex Agricultural Society by the Farmers' Club of West Newbury, was raised by ten or twelve members of that Club, and the manner of cultivation was somewhat different, but in most cases it was raised with barn-yard manure spread broadcast, about six cords per acre.

With this manner of cultivation the amount per acre has averaged 65 bushels of shelled corn, two of them had 85 bushels per acre. We do not know what it cost to raise a bushel of corn with barn-yard manure, inasmuch as we do not know the amount of fertilizer remaining in the soil after the crop is off. Three of our members have tried the Stockbridge fertilizer with the following result, with the presumption that the Corn took from the soil the amount of fertilizer applied. Their statement is as follows. Planted according to the Stockbridge formula, the cost per hushel has been 43 cents; the amount per acre 47 bushels of shelled Corn.

The Corn crop of this town is all of 15 bushels less per acre than last year, owing to the severe drought in July.

Our seed is the Danforth Corn, eight rowed, and, everything taken into consideration, the best variety we have ever planted. We tried the Hapgood Corn this summer, with very poor results.

I have an early variety; the seed I brought from Maine last spring; it was on exhibition at our Fair, also at the Essex

Digitized by Google

Fair, in Lawrence. It is three weeks earlier than the Danforth. For light soil, everything considered, I think it the best kind for general cultivation.

E. G. Nason, *For the Committee.*

TREADWELL FARM.

The Committee on the Treadwell Farm, respectfully submit the following report:—

The farm still continues under the lease to Hon. Thomas P. Pierce, and under the management of Mr. Philbrook, who devotes a large part of the tillage land of the farm, to the raising of vegetables for the market, corn and roots for feeding to his large stock of milch cows and breeding horses. The farm buildings are now in excellent repair; the land is carefully cultivated, kept clean of weeds, and may be considered as a good example of a well managed farm, that no member of the Society need be ashamed of, but on the contrary refer to it with satisfaction, as a farm worthy of the reputation of the Essex Agricultural Society.

There have been used upon the farm this year, as fertilizers, fish pomace to the value of $57.62, Stockbridge fertilizer costing $175, and sixty-two and three-fourths cords of barnyard manure. The products are,—of English hay, 15 tons; Meadow hay, 18 tons; Cabbages, 4818 heads; Potatoes, 403 bushels; Carrots, 250 bushels; Turnips, 820 bushels; Corn, in the ear, 1110 bushels; Beans, 10 bushels; Peas, 29 bushels; Apples, 116 barrels.

Benjamin P. Ware, *for the Committee.*

MANURES.

The Committee on Manures have been called upon to examine two reports of experiments, offered for premium, one made by Francis H. Appleton, of Peabody, and one by

Digitized by Google

Benjamin P. Ware, of Marblehead. Edmund Smith, of Newburyport, also presented a statement of an experiment which he did not enter for premium, but offered for publication. It was expected that Dr. James R. Nichols, Chairman of the Committee, would write a report to accompany these statements, but ill health prevented, much to the regret of the Committee and of himself, and we are sure the Society was thus deprived of a discussion of the subject of manures which at his hands could not fail to be instructive and interesting. The details of the experiments made by the applicants for premium, as well as by Mr. Smith, are very interesting and valuable, and the Committee recommend the award of the first premium of $15, to Francis H. Appleton, of Peabody, and the second premium of $10, to Benjamin P. Ware, of Marblehead. The experiments were very similar in their nature, all of them being trials of the relative value of barn-yard manure and Stockbridge fertilizer, and in two instances Darling's fertilizer. As was well stated by the Chairman of the Committee, "It is to be regretted that no information is given of the nature or composition of Darling's* fertilizer. The past season, owing to the extreme drought, was very unfortunate for experiments with commercial fertilizers. The wonder is that they were heard from at all." Notwithstanding this drawback, the experiments seem to give like results in each case, and are quite convincing. The whole subject of commercial fertilizers is of immense practical importance to farmers, and any reliable collection of facts showing their relative value as compared with barn-yard manure, or with each other, is of great value, and will be eagerly sought. It costs something to try experiments, and the fault with them usually is that the details are not kept with sufficient exact-

* NOTE.—From annual report by Professor Goessmann. *Darling's Animal Fertilizer with Potash.* Volatile and Organic Animal Matter, 56.50 per cent.; Ash constituents, 43.50; Moisture, 6.36; Nitrogen in Organic Matter, 8.58; Phosphoric Acid in Ash, 9.49: Potassium Oxide, 5.07; Insoluble Matter, 1.00.

Valuation of 2000 pounds.—171.6 pounds of Nitrogen, $36.04; 112.8 pounds of Phosphoric Acid, $11.28; 101.4 pounds of Potassium Oxide, $6.08. Total, $55.40.

Manufactured from blood-meat and bones of animals, with addition of potash.

Digitized by Google

ness. Probably in a majority of cases the farmer does not intend to make an experiment to be reported, when he enters upon it, but after its completion, knowing it to be of value to himself, he thinks it will be to others, and he then narrates the details from recollection. The value of many of the statements concerning crops raised and offered for premium, is materially lessened by the evident fact that they are estimates of cost made up after the crop is raised, rather than statements of details kept during the progress of its culture and growth. It is likely that in the item of labor there is generally more time actually laid out in the cultivation of a crop than appears in the statement, for the reason that the cost is *estimated*, and this because the farmer does not in the beginning expect to report his experiment. The great merit in the statements herewith submitted is, that the details of the experiments are given with unusual clearness and accuracy, and show what the crops actually did cost. Mr. Appleton kept his account of labor with a care we seldom see equalled in like cases. The three experiments *seem* to show that the Stockbridge fertilizer, and perhaps Darling's compound, are worth quite as much for a year as an equal value in animal manure. We know that when the latter is applied to the land, an important part remains for future crops. All, or nearly all commercial fertilizers heretofore in general use, have failed in this particular, and in most cases their constant and exclusive use has resulted in exhaustion of the land. Whether this is true of the Stockbridge and Darling compounds, is a point that can only be settled by protracted trial, and this we conceive to be a point on which our farmers earnestly desire more light. We hope the gentlemen who have given us the results of their experiments this year, as well as others who have made similar trials, will continue their experiments for the purpose of showing whether these newly introduced fertilizers can be profitably used, and the fertility of the soil kept undiminished, without the use of other manures.

JOS. S. HOWE, *for the Committee.*

Digitized by Google

STATEMENT OF FRANCIS H. APPLETON.

I send in this statement of my experience in raising Indian Corn during the season of 1878, as it seems to me quite interesting, beyond being an accumulation of carefully made-up facts. As distances from barn, and other circumstances, vary in different fields, so must my figures vary from others of a similar kind.

I have taken much pains to keep an account in my diary of the time expended in the fields, from which my figures are taken. Both these crops were raised on worn-out sod land, upon which almost no grass could be cut in 1877. The one with stable manure makes by far the worst showing, even after deducting the cost of one-half of the manure, as being in the land and still good for next year's crops. In the case of the Stockbridge fertilizer crop, it will be seen that more fertilizer was applied than is generally recommended; and the question arises whether any of it still remains in the land for the next crop, or whether the extra quantity has been washed down too deep in the land to be available manure, on account of its greater solubility than stable manure. In my figures I have made no deduction for the value of any fertilizer that may remain in the land for next year's crop.

Had six bags only of the fertilizer been used (the general amount recommended by Bowker & Co., the makers,) with the same result, which would, theoretically, have been possible, and I given credit for the extra three bags, the cost would have been 19.4 cents for a bushel of corn on cob. The corn I used for seed, was the eight rowed variety.

In harrowing, cultivating and hilling, some saving could be made by employing an intelligent boy to drive, or ride the horses; and in the second cultivating, and the hilling, one careful man with a good horse would be all that is needed, the corn being high enough to perfectly mark the track for the horse. I also see in the "American Agriculturist" that three cents a bushel is the price to be paid for husking, which would decrease that charge one-half, where it could be done.

Digitized by Google

My experience has been that about twenty bushels per man in ten hours, was the amount husked.

I should state that I used the Ross machine, which sowed my corn in drills, and. dropped the fertilizer immediately after the kernels, in such a manner that they did not fall in contact with each other, and the former has in no way seemed to have been injured by the latter. The Ross Hiller has also done me good service. By these machines I have been able to cultivate more land with my labor than I otherwise could.

Next year I intend to raise corn on a similar kind of land, with six bags of fertilizer to the acre, and shall hope to tell the result next year.

I report as follows:—3 acres, 31,424 feet of Indian Corn, on land which was run out in the previous year, excepting 21,329 feet where potatoes were raised with manure in 1877, and which was, in 1878, only enriched with fertilizer in drill; the remaining 3 acres, 10,095 feet was manured with stable manure at the rate of six cords to one acre, with the same fertilizer in drill. I have charged my labor at $1.50 per day of 10 hours, and each horse at 75 cents per day. Stable manure at $10 per cord, spread on the field. The manure was harrowed in by Randall wheel harrow. The time is given below in hours and minutes.

	Men. h.	m.	Horses. h.	m.	
Ploughing in Autumn of 1877	41	50	43	40	$ 6 55
22 1-2 cords stable manure					225 00
Harrowing (Randall) 19th April, lapping one-half	5	34	11	8	1 67
Harrowing (straight tools), 17th May " "	5	34	11	8	1 67
Sowing seed and fertilizer at same time (Ross Machine) 18 May	17	24	8	42	3 26
650 pounds Bowker's Hill and Drill Phosphate					21 25
Seed					1 20
Sowing after Crows, 1st June	6	40			1 00
2 cultivatings with "Scarifier"	20	27	10	13	4 86
1 hilling (Ross Machine), 6th July	13	20	6	40	2 50
Harvesting, 3 loads tops, cut 20th Sept	105		16		16 95
Harvesting, 7 loads corn and butts, 11th Oct	57		32		10 95
Husking 441 bushels, at 6 cents per bushel					26 46
Interest and taxes					12 02
					$335 34

5,175 pounds tops
16,600 " butts.

16,776 pounds stover at $6 per ton	$50 33	
9 3-4 cords stable manure unused	97 50	$147 83
441 bushels corn on cob		$187 51

Equal to 1 bushel corn costing 42 1-2 cents.

Digitized by Google

One acre, 5,867 feet of Indian Corn on land which yielded a very light crop of Hungarian grass in 1877, without any manure or fertilizer. In 1878 it was manured with seven bags Stockbridge corn fertilizer, sown broadcast and harrowed in by Randall wheel harrow, and also two bags of same fertilizer in the drill. My charges are the same as I have already stated for the other field.

	Men. h.	m.	Horses. h.	m.	
Ploughing	7	34	15	8	$ 2 28
9 bags Stockbridge corn fertilizer (2 in drill)					45 00
Spreading fertilizer	1	42			36
Harrowing (Randall), lapping one-half	1	42	3	24	32
Harrowing (straight tools), " "	1	42	3	24	32
Sowing seed and fertilizer at the same time (Ross Machine),	3	24	1	42	64
Seed					30
2 cultivatings with "Scarifier"	6	48	3	24	1 28
1 hilling (Ross Machine)	3	24	1	42	64
Harvesting 1 load tops	39		6		6 30
Harvesting 6 loads corn and butts	12		8		2 40
Husking 184 bushels, at 6 cents per bushel					11 04
Interest and taxes					3 67
					$74 45

1,848 pounds tops
6,070 pounds butts

7,918 pounds stover at $6 per ton 23 75

184 bushels corn on cob $50 70
Equal to 1 bushel corn costing 27 1-2 cents.

Respectfully submitted,

FRANCIS H. APPLETON.

Peabody, Nov., 1878.

STATEMENT OF BENJAMIN P. WARE.

To the Committee on Experiments with Manures:—The land taken for my experiment with fertilizer, this year, is the same acre that was used for my experiment last year; this making the third year that it has been planted with corn, and only chemical fertilizers used. To this land I have added one-half an acre adjoining of the same quality of land. Last year this half acre was planted with corn and peas on a fair dressing of barnyard manure. The whole has been planted and cultivated by the Ross system of implements, which requires no hand labor except once weeding, and with that the field has been clean of weeds. By this system the cost of cultivating is very much reduced.

Digitized by Google

I divided the acre and one-half of land into four lots. Or lot No. 1, (which contained the same land as lot No. 1 in my last year's experiment,) I spread on broadcast, after ploughing, 658 lbs. of Darling's Animal Fertilizer, which cost $13.36, and 70 lbs. Sulphate of Potash, costing $1.75, making a total of $15.11.

Lot No. 2 contained half an acre, and is the same as lot No. 2 of last year's experiment. I spread on as above three bags of Stockbridge Fertilizer, prepared and sold by Bowker & Co., at a cost of $15.

Lot No. 3, containing one-fourth of an acre, had no fertilizer whatever.

Lot No. 4, which also contained one-fourth of an acre, I manured with good quality of cow manure at the rate of 7 cords per acre, valued at $7 per cord. It was spread on after ploughing, and harrowed in as were the other fertilizers. The land was planted with corn May 20.

The cultivation was the same on the whole field, and the natural quality of the land as much alike as possible, being a gravelly subsoil, not subject to drought or wet; would be called good corn land. The corn was cut and stooked Sept. 15, and remained in stook until Nov. 11, when it was husked and weighed, being quite dry, 72 lbs. of ears yielded 56 lbs. of shelled corn.

Lot No. 1 produced 2193 lbs. of ears, (equal to 30 45-100 bushels of shelled corn,) and 1975 lbs. of stover.

Lot No. 2 produced 2210 lbs. of ears or 30 69-100 bushels shelled corn, and 2000 lbs. of stover.

Lot No. 3 produced 710 lbs. of ears or 9 86-100 bushels shelled corn, and 645 lbs. stover.

Lot No. 4 produced 985 lbs. of ears, or 12 98-100 bushels shelled corn, and 1136 lbs. stover.

Cost of cultivation per acre is as follows:—Ploughing, $1.75; Harrowing, $.75; Planting, $1.50; Cultivating three times, at .75, $2.25; Hand Weeding, $1.00; Cutting and Stooking, $4; Husking, $3; Carting in Stover, $3. Total, $17.25.

Digitized by Google

For convenience, I propose to reduce the results of the experiments to an acre, each lot, and summarize them as follows:—

Lot No. 1, fertilized with Darling's Animal Fertilizer, produced 60 9-10 bushels shelled corn, at a cost of 52 cts. per bushel. In 1877, on same lot and with same fertilizer, cost 39 cts. per bushel.

Lot No. 2, fertilized with Stockbridge Fertilizer, produced 61 38-100 bushels, at a cost of 50 9-10 cts. per bushel. In 1877, on same lot, with same fertilizer, cost 62 1-2 cts. per bushel.

Lot No. 3, with no fertilizer of any kind, produced 39 1-2 bushels, at a cost of 11 1-3 cts. per bushel.

Lot No. 4, fertilized with cow manure, produced 53 bushels, at a cost of 85 cts. per bushel.

BENJAMIN P. WARE.

STATEMENT OF EDMUND SMITH.

The soil on which this crop was raised is a dark sand. It is in Newbury, near Plum Bush Bridge, on the Plum Island Turnpike, and contains one acre. It is very little higher than the marsh adjoining, and is often covered by the tide. It has been in grass, but was pretty well run out. In 1877 it produced only three hundred pounds of hay. It was ploughed and harrowed May 28th. It was furrowed, and the fertilizers applied; the 29th, and one peck of corn planted the next day, the 30th; 400 lbs. of Stockbridge corn fertilizer costing $12.32, was applied to one-half by measure, and 334 lbs. of Darling's Animal Fertilizer, costing $7.52, to the other half; they were both applied by dropping a handful in the hill, covering with a hoe, with about three inches of soil, dropping five kernels of corn in the hill, and covering with the hoe, about three inches; the whole came up well, and grew rapidly. Cultivated both ways, and hoed the last week in June. Cultivated both ways July 23d; hoed August 2d and 3d. The crop was cut October 1st, tied in bundles, six hills to a bundle, and put in stooks immediately about twelve

Digitized by Google

bundles to a stook. October 18th, the corn was husked in the field, leaving the husks on the stover. The crop was weighed as taken from the field; the product being as follows:—From one-half acre, (Stockbridge), 2000 lbs; from one-half acre, (Darling's), 1791 lbs; Total, 3791 lbs.

No other manure or fertilizer was applied to the crop. A high tide, when the corn was about six inches high, flowed in a low place, of about fifty hills, to the depth of three inches on the Stockbridge, reducing the crop on that part some. The Darling, being nearest the marsh, was raided upon by the rats, destroying, in my judgment, considerable more of the crop than Stockbridge was injured by the tide. The corn was the eight rowed variety, and the percentage of unsound or pig corn, was very small. The stover (butts, husks and top stalks) were sold and weighed from the field, for $18.10, weighing, 5870 lbs. The financial statement is as follows:—

Interest and tax on land		$3 00
Seed		25
Ploughing and harrowing		6 00
Furrowing, applying fertilizers, and planting		6 25
Cultivating and hoeing twice		8 95
Cutting and stooking		2 75
Husking and harvesting		4 75
		$31 95
Cr., from Stockbridge, 2000 lbs. ears Corn	$20 00	
Half of Stover	9 05	
		$29 05
Dr., one-half of expense, as above	$15 97	
400 lbs. Stockbridge Fertilizer	12 32	$28 29
Profits on Stockbridge		$ .76
Cr., from Darling's, 1791 lbs. ears Corn	$17 91	
Half of Stover	9 05	
		$26 96

Digitized by Google

Amount brought up		$26 96
Dr., one-half expense, as above	$15 97	
334 lbs. Darling's Fertilizer	7 52	$23 49
Profits on Darling's		$ 3 47

ESSAY.

CLEARING A NEW ENGLAND FARM OF BOULDERS,

BY JAMES J. H. GREGORY.

Boulders are the large stones, weighing from a few pounds to many tons each. They were more or less rounded in the course of their transportation from their parent ledges in the Northwest, long before man was created, as geologists tell us; such stones as we find on nearly all the farms of New England that are not along river courses and of alluvial formation. These are the stones that have given New England her network of stone fences, and which, when they abound on the surface, are considered in the popular judgment as indicating soil of good natural capacity.

When on or near the surface, every farmer finds that they interfere seriously with the cultivation and harvesting of his crops. They are in the path of all horse work; they are the nuclei around which gather bushes in the mowing and weeds in the tillage; they consecrate a large area around them to waste, where the plough never enters, and stones and general refuse accumulate; they are unsightly to the eye, and in the judgment of him who would buy, hold a first mortgage on the premises; and, finally, in the same proportion as agriculture progresses, all these objections grow in emphasis.

Shall the boulders be removed? The hard-worked, practical New England farmer replies by a counter question, "will it pay?" If a man has any leisure, of course it will always pay to invest his time in improvements; but if clear-

Digitized by Google

ing his land of boulders means giving time that the farmer recognizes other calls for, and especially if it means the employment of hired help, then the question becomes somewhat complex. When time given to this work means money, on many farms it would be cheaper to invest what it would cost to clear land of boulders in the purchase of land already cleared, the farmer showing practical wisdom under such circumstances in planting his boulder-covered acre to wood, throwing it into pasture, or still continuing to do the best he can with it, under the circumstances, as tillage.

There is, however, a large class of farmers, whose land, either from its natural quality or in its vicinity to a market, is so valuable that they are led seriously to discuss the practicability of removing these hereditary obstructions to their progress in thrifty farming. To that class I address myself. Let us examine the boulders as to their size, their number, how they lie, whether mostly above or below the surface, for digging around them is one of the serious items of cost, while those deeply sunk never blast as well as those near the surface, and when blasted require extra work to get them out of their deep beds. Again, we should regard the kind of rock they are of, for the granites smash up far better than the rocks into whose composition hornblend enters. Finally, the value the rock may have after removal is to be considered, either to the public for building purposes, or to the farmer himself. Sometimes this may come by using the rock for building some long needed house or barn. Having had to consider some of these points on three of my own farms, the past three years, while removing thousands of tons of boulders, I will present my method of dealing with these hard headed obstructionists, with what experience has taught me, always ready to light my taper at the lamp of any of my fellow farmers whose experience may supplement my own. The man with some patent lever will be apt to come along about the time you begin to start your boulders; a something to lift the boulder from its bed after a couple of stout hooks are fastened to it by holes an inch or so deep drilled into the

Digitized by Google

rock. Some of these save-labor contrivances are good in themselves, but my experience teaches that whether they are of value to you or not turns on the readiness with which you or your foreman take to the plan—for instance, one man will hit at once the knack of drilling these holes at the right angle, so that the hooks scarcely ever draw out, while with another the hooks as often as not draw out.

With me the lifting apparatus has not proved a profitable investment, while with my next neighbor it has worked well. After various experiments, I have found it more profitable to lay out the uncovering and drilling as piece work, paying a price per inch for drilling, which includes uncovering also, when the boulders need blasting; otherwise, then a special price for uncovering.

At the present time I pay six cents an inch, find powder and drills, and pay for the sharpening of the same. I have no doubt but that to many this reads like very good wages, and some shrewd yankee who is reading this is itching to get his pen and ink and offer better rate, with the idea that there is money in it. By the old time way of blasting, there would be very good wages to be made at these rates; but there has been a change in the character of explosives, and of these I have availed myself. My boulders are of all sizes, up to twenty tons to a single stone, but those we blast average about four tons weight. The average depth of the holes drilled was at the start about ten inches, but with increased experience and improved explosives, the depth has been decreased to the average of about five inches, while the diameter of the holes has at the same time been much lessened. The explosive I now use is Rendrock, an admixture of gunpowder while in a pasty state with nitro-glycerine. This powerful explosive, though well known and very generally in use by contractors on public works, is yet so little known by farmers in general that I think it will be worth while for me to give them an introduction to it, as its use enters so largely into the economy of handling boulders.

Rendrock is sold (I get mine of George H. Sampson, 25

Digitized by Google

Congress street, Boston) in paper cartridges of various sizes, at the rate of 50 cents for lots under 50 pounds. It is fired with a powerful cap, which cost two cents each. The material is generally used by tearing open the cartridge and taking as needed. As will be seen, it is over twice as costly as common blasting powder, but, as every farmer knows, the great cost in blasting is the drilling, and this is where the saving comes, as it will do as much execution as gunpowder in a hole of one-third the capacity. Again, it can be loaded far more readily; push it down hard with a stick, and inserting the cap, fill up with any coarse soil at hand, giving it one or two sharp pushes down with the same stick, put a few handfuls of earth above and any forty or fifty pound rock at hand on that. After, on firing, stand a good distance from the hole, as the rocks fly more than with common powder. There is capacity in this explosive which is wanting in gunpowder; that of blasting a rock by putting it on the surface, when any appearance of a seam can be detected. I have had boulders weighing ten tons, and very solid and hard ones too; knocked all to pieces without any hole having been drilled in them, the first attack being made in a small crevice, just large enough to receive a quarter of a pound of rendrock, which was plastered in there by hand, just like so much mortar. This "strained" an opening into the rock, and two more blasts finished the monster, reducing him into pieces so small that a single horse could handle the largest one. The capacity of smashing into smaller pieces, I find one of the good traits of rendrock. The extra power becomes of value in enabling one to do in a single blast what gunpowder would require two to accomplish. I had two such instances this morning, where fragments of two very large boulders were left in their respective holes that were too near the surface and needed removal; cartridges of rendrock thrust between them did the work capitally, when there was not working surface sufficient for powder to have done any work. As to any extra danger from this compound, there is none to any

Digitized by Google

man of common prudence, who knows how to treat a cow as a cow and a horse as a horse. Full instructions, with necessary precautions, come with the material, and if desired, a man is sent to give practical illustrations.

Having reduced our boulders to fragments that cattle can handle, what shall we do with them? For myself I have no market for them; having used up all needed for cellars, there still remain thousands of tons to be handled. My way of handling them is set forth in the wisdom of the old proverb, "make one hand wash the other." I need, as every farmer does, or should need, more or less soil for my compost heaps, amounting to some hundreds of cords annually. Having used all the waste that ditches and other resources afforded, I was driven to my pasture land, and had begun to make unsightly holes that pained me to look at,—when a resource occurred to me in the various roadways of the farm, leading to the different fields. I remove the surface soil as deep as of value (and for compost a portion of sand or hard-pan does no harm as an absorber of liquids), then dig a sufficient depth into the gravel to receive the boulders, tumble them in, fill up the spaces between with the smaller rocks, which I take from some of the too many walls, level off with the smaller stones, and finish with the gravel thrown out of the roadway. I could not afford to blast these boulders to make a roadway, nor to make a roadway simply to get rid of these boulders; but the compost material is the happy make-save—while at the same time I get a splendid road, completely underdrained, that knows nothing of the coming or going of frost, but is always as magnificent a road bed as the famous highways of the ancient Romans. If it were merely a question of sinking boulders and thus disposing of them, I question whether this would not be the still more economical way of management; for I have found when single stones are handled in this way, to make sure of getting them at the right depth below the reach of the plough, it is necessary to dig a hole much larger than the boulder; whereas, in the ex-

Digitized by Google

cavated roadway there is far less waste, while the digging that is necessarily all spade and pick work in individual holes, here is mostly done by the plough. If in handling blasted rocks I find some with good building faces, these I haul into some waste angle, to avail myself of their possibilities. This, my fellow farmers, is the best paying way I have yet found for disposing of these obdurate tenants-at-will, whose principal business, since the coming of civilization, has been to break, or wear away plough points and strain the patience of industry. The other day I studied the record of a single stone measuring two feet by two and a half. On its hard greenstone face, located just below the surface of the soil, I counted, side by side, as close as they could stand, over forty well-defined grooves made by the points of ploughs, all along down from the ancient Puritan days, to the present year of possession. With feelings somewhat allied to indignation, I pitched that stone into the bottom of my roadway trench, and so closed the record.

ESSAYS AND REPORTS OF COMMITTEES.

The Committee on Essays and Farm Accounts would report that but one essay was offered for premium, and no statement of "actual farm accounts." As the authorship of the essay was (without thought evidently), made known to the Committee, they felt that they could not deliberately transcend the rules of the Society by considering a premium in connection with it, though, with the author's consent, the essay is published. For the best report, they award the first premium, of $10, to D. W. Low, of Gloucester, for the report on Pears. There are other valuable reports, like that on Manures, for instance; but as the chief value lies in the statements which accompany experiments that are the subject of distinct premium, the Committee did not feel that they could, in such cases, grant additional premiums.

N. A. Horton, D. E. Safford, C. P. Preston—*Committee.*

Digitized by Google

E. H. PAYSON, TREASURER, IN ACCOUNT WITH THE ESSEX AGRICULTURAL SOCIETY.

1877.	Dr.		1877.	Cr.		
October.	To balance of former account	$ 75 65	October.	By Premiums and Gratuities awarded by the Society		$1802 00
	To Bank dividends	413 10	1877			
	To State Bounty	600 00	November.	By Expenses of Exhibition per Committee's Account at Lawrence	$1781 19	
October 26.	To D. F. Appleton	25 00		By Expenses paid by the Treasurer	71 05	1852 24
November 15.	To Receipts at Lawrence per Committee's Report	2277 92		By Printing bills		419 93
December 13.	To State Tax refunded	191 56		By Secretary's account		241 37
1878.				By balance to new account		711 24
February 2.	To Revere Bank on reduction of Capital	208 25				$5026 78
April 1.	To Bank dividends	407 30				
May 5.	To Treadwell Farm	500 00				
September 19.	To Coupons Essex Railroad	42 00				
	To Premiums unclaimed	175 00				
	To received of New Members	111 00				
		5026 78				

Digitized by Google

FUNDS BELONGING TO THE SOCIETY.

	Cost.	*Market Val.*
5 shares First National Bank in Danvers	$ 375 00	$ 472 00
16 shares Warren National Bank, of Peabody	1,595 40	2,000 00
8 shares National Exchange Bank, of Salem	800 00	840 00
18 shares First National Bank, of Salem	1,914 66	2,000 00
12 shares Mercantile National Bank, of Salem	1,226 50	1,250 00
23 shares Merchants National Bank, of Salem	1,189 50	1,338 00
15 shares South Danvers National Bank	1,471 25	2,000 00
3 National Revere Bank, of Boston	377 62	300 00
42 shares Asiatic National Bank	1,281 25	1,600 00
18 shares Salem National	2,000 00	2.100 00
Essex Railroad bonds	700 00	700 00
Cash on hand as above	711 24	711 24
	$13,642 42	$15,311 24
This amount last year was	$13,215 08	
Being a gain this year of	427 34	

EDWARD H. PAYSON, Treas.

Salem, Sept., 1878.

The undersigned have examined the within account of receipts and disbursements of the Treasurer, and also his statement of the funds belonging to the Society, showing a balance in his hands of $711.24, and find the same correctly cast and properly vouched, and the investment according to the schedule.

JOS. H. PHIPPEN, } Auditors.
G L. STREETER. }

Salem, Jan. 15th, 1879.

Digitized by Google

OFFICERS OF THE SOCIETY.

FOR 1878-79.

PRESIDENT.

BENJAMIN P. WARE, of Marblehead.

VICE PRESIDENTS.

GEORGE B. LORING, of Salem.
JAS. J. H. GREGORY, of Marblehead.
THOMAS K. LEACH, of Topsfield.
THOS. C. THURLOW, of West Newbury.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

TREASURER.

EDWARD H. PAYSON, of Salem.

HONORARY TRUSTEES.

JOSEPH HOW, of Methuen.
WILLIAM SUTTON, of Peabody.

TRUSTEES.

M. C. Andrews, Andover; Henry W. Foster, Beverly;
Francis R. Allen, Hamilton; J. P. Foster, No. Andover;
O. S. Bailey, Amesbury; J. J. H. Gregory, Marblehead;
William Cogswell, Bradford; A. E. Goodwin, Merrimac;
Wm. B. Carlton, Haverhill; Ariel H. Gould, Topsfield;
John H. Cheever, Manchester; Geo. L. Hawkes, Lynnfield;
W. H. B. Currier, Salisbury; J. Sidney Howe, Methuen;
Zachariah Cole, Wenham; Samuel Hawkes, Saugus;
Levi Emery, Lawrence; Romulus Jaques, W. Newbury;

Digitized by Google

James P. King, Peabody; Ansel W. Putnam, Danvers;
Aaron Low, Essex; John P. Palmer, Swampscott;
David W. Low, Gloucester; Abel Stickney, Groveland;
John W. Marshall, Rockport; Nathaniel Shatswell, Ipswich;
Chas. P. Mighill, Rowley; John L. Shorey, Lynn;
Sherman Nelson, Georgetown; David Stiles, Middleton;
Sidney F. Newman, Newbury; J. O. Winkley, Newburyport;
John M. Pearl, Boxford; Horace C. Ware, Salem.

NEW MEMBERS, 1878.

Moses B. Abbott, Andover; B. G. Gutterson, Methuen;
John W. Allen, Newbury; H. M. George, Saugus;
J. E. Bradstreet, Bradford; John Goodwin, Lawrence;
George W. Bray, Newbury; C. D. Hunking, Haverhill;
Samuel G. Bean, Andover; David W. Noyes, Methuen;
Frank J. Bradley, Methuen; John O'Brien, Bradford;
W. H. Butters, Methuen; A. M. Robinson, Andover;
Dan'l A. Carlton, N. Andover; E. P. Robinson, Hamilton;
John W. Carter, Beverly; Benj. F. Smith, Andover;
William Dodge, Wenham; Henry Small, Lawrence;
Mrs. John Day, Boxford; J. E. Thurlow, Methuen;
Geo. E. Davis, N. Andover; George H. Taylor, Wenham;
Geo. L. Flook, W. Newbury; F. M. Victor, Lawrence.

☞ Any citizen in the County may become a member by paying the sum of three dollars to increase the permanent funds of the Society, and he will receive a certificate of his membership from the Secretary. No fines or assessments are ever imposed. Members are entitled to the free use of the Library, and a copy of the Transactions each year. All ordained Ministers of the Gospel residing in the County, and editors of newspapers, published therein, are entitled to the privileges of the Library.

Digitized by Google

LIST OF PREMIUMS, &c.

FAT CATTLE.

Charles A. Butterfield, North Andover, second premium,	$10 00

BULLS.

Wm. A. Russell, Lawrence, Holstein Bull with five calves, first premium,	$15 00
Chas. S. Bradley, West Newbury, Devon, second premium,	6 00
Chas. S. Bradley, West Newbury, Durham, second premium,	4 00
Wm. A. Russell, Lawrence, Holstein under two years, first premium,	6 00
Chas. Perley, Boxford, Ayrshire bull, first premium,	10 00
Doane Cogswell, Bradford, second premium,	6 00
J. D. W. French, North Andover, Ayrshire bull under two years old, first premium,	6 00
S. F. Newman, Newbury, second premium,	4 00
Geo. W. Russell, Lawrence, Jersey under two years, first premium,	6 00

MILCH COWS.

Wm. A. Russell, Lawrence, Holstein, special premium,	$25 00
Wm. A. Russell, Lawrence, Holstein best milch cow, first premium,	12 00
J. D. W. French, North Andover, Ayrshire, second premium	9 00
J. D. W. French, North Andover, Ayrshire cow, first premium,	12 00
J. D. W. French, North Andover, second premium,	6 00
Chas. O. Cummings, Andover, Jersey, first premium,	12 00
Wm. A. Russell, Lawrence, Holstein, first premium,	12 00
Wm. A. Russell, Lawrence, second premium,	6 00
David W. Noyes, Methuen, Grade, first premium,	12 00
J. E. Thurlow, Methuen, second premium,	6 00

Digitized by Google

HERD OF MILCH COWS.

Chas. Perley, Boxford, first premium,	$18 00
Wm. A. Russell, Lawrence, second premium,	12 00

HEIFERS.

Chas. Perley, Boxford, thoroughbred Ayrshire in milk, first premium,	$12 00
J. D. W. French, North Andover, second premium,	6 00
Frank J. Bradley, Methuen, grades in milk, first premium,	12 00
G. S. Phippen, Methuen, second premium,	6 00
J. D. W. French, North Andover, thoroughbred Ayrshires that had never calved, first premium,	6 00
Chas. Perley, Boxford, second premium,	4 00
Wm. A. Russell, Lawrence, thoroughbred Holstein that had never calved, first premium,	6 00
C. S. Bradley, West Newbury, thoroughbred Durham that had never calved, first premium,	6 00
C. S. Bradley, West Newbury, thoroughbred Devon that had never calved, first premium,	6 00
S. F. Newman, Newbury, grades that had never calved, first premium,	6 00
M. C. Andrews, second premium,	4 00
Charles Perley, Boxford, heifer calves, first premium,	5 00
S. F. Newman, Newbury, second premium,	3 00

WORKING OXEN AND STEERS.

Jas. H. Reynolds, North Andover, Oxen, first premium,	$12 00
A. M. Bodwell, Lawrence, second premium,	10 00
G. F. Mason, Andover, third premium,	8 00
B. H. Farnham, North Andover, Steers, first premium,	10 00
R. S. Bray, Newbury, second premium,	6 00

TOWN TEAMS.

Town of North Andover, 18 yokes of oxen, first premium,	$30 00
Town of North Andover, 7 pairs of horses, first premium,	30 00

STEERS.

Byron K. Farnham, North Andover, first premium,	$5 00
Benj. and Ralph Farnham, North Andover, second premium,	4 00
Benj. and Ralph Farnham, No. Andover, steer calves, gratuity,	3 00

Digitized by Google

STALLIONS.

G. W. Russell, Lawrence, Stallion with 5 colts, premium,	$25 00
J. G. McAllister, Lawrence, four years old, first premium,	15 00
Chas. S. Clark, Salem, second premium,	10 00
H. M. George, Saugus, three years old, first premium,	10 00
Daniel Tenney, Newbury, second premium,	6 00

BROOD MARES.

B. G. Gutterson, Methuen, mare and foal, first premium,	$15 00
P. R. Gutterson, second premium,	10 00
Henry Small, Lawrence, third premium,	8 00

FAMILY HORSES.

C. D. Hunking, Haverhill, first premium,	$15 00
Samuel G. Bean, Andover, second premium,	10 00
Geo. F. Mason, Andover, third premium,	8 00

FARM AND DRAFT HORSES.

Wm. A. Dane, Hamilton, first premium,	$15 00
W. H. Butters, Methuen, second premium,	12 00
Joshua N. Kent, Newbury, third premium,	10 00
D. L. Goodrich, West Newbury, fourth premium,	6 00

PAIRS OF DRAFT HORSES.

Oliver Stevens, North Andover, first premium,	$15 00
Geo. W. Bray, Newbury, second premium,	10 00

COLTS — FIRST CLASS.

Henry Riley, North Andover, colt 4 years old, first premium,	$12 00
Geo. E. Davis. North Andover, second premium,	8 00
S. P. Bradley, Haverhill, third premium,	5 00
Goodwin Bros., Lawrence, colt three years old, first premium,	10 00
Geo. W. Russell, second premium,	5 00

Digitized by Google

COLTS — SECOND CLASS.

S. M. Titcomb, Newbury, two years old, first premium,	$8 00
Geo. B. Bradley, Methuen, second premium,	5 00
Peter Holt, Andover, yearling, first premium,	6 00
H. M. George, Saugus, second premium,	4 00

SWINE.

J. D. W. French, North Andover, breeding sow, small bone, first premium,	$10 00
B. H. Farnham, second premium,	6 00
Chas. Perley, Boxford, boar do., first premium,	10 00
J. D. W. French, North Andover, second premium,	6 00
Albert Berry, North Andover, breeding sow, large bone, first premium,	10 00
Daniel Carleton, North Andover, second premium,	6 00
Albert Berry, North Andover, weaned pigs, large bone, first premium,	10 00
J. F. Colquohoun, Lawrence, second premium,	6 00
Levi Emery, Lawrence, boar, large bone, second premium,	6 00

SHEEP.

Chas. Perley, Boxford, buck, first premium,	$8 00
Chas. Haseltine, Bradford, flock, first premium,	10 00

PLOUGHING — DOUBLE TEAMS.

Jaques & Bray, Newbury, first premium,	$12 00
Joseph Goodrich, West Newbury, second premium,	10 00
Edward Adams, North Andover, third premium,	9 00
Frank J. Bradley, Methuen, fourth premium,	8 00

PLOUGHING — SINGLE TEAM.

R. T. Jaques, Newbury, first premium,	$10 00

PLOUGHING — WITH HORSES.

Paul T. Winkley, Newburyport, first premium,	$12 00
H. M. Goodrich & A. L. Plummer, West Newbury, second premium,	10 00
A. T. Newhall, Newburyport, third premium,	8 00
T. O. Wardwell, North Andover, fourth premium,	6 00
R. S. Bray, Newbury, fifth premium,	4 00

Digitized by Google

PLOUGHING—WITH THREE OR MORE HORSES.

Sidney F. Newman, Newbury, and J. N. Kent, first premium,	$10 00
Geo. W. Bray, Newbury, second premium,	6 00

PLOUGHING—SWIVEL PLOUGH.

Wm. A. Russell, Lawrence, first premium,	$12 00

FARMS.

Samuel Dane, Hamilton, first premium,	$30 00

EXPERIMENTS WITH MANURES.

Francis H. Appleton, Peabody, first premium,	$15 00
Benj. P. Ware, Marblehead, second premium,	10 00

GRAIN CROPS.

J. B. Knight, Newbury, Rye Crop, first premium,	$10 00
John Pearl, Boxford, Corn, first premium,	10 00
Abel S. Harriman, Groveland, Corn, gratuity,	6 00
Nathaniel Little, Newbury, Wheat, first premium,	10 00

ROOT CROPS.

J. B. Knight, Newbury, Potato Crop, first premium,	$10 00
J. J. H. Gregory, Marblehead, Cabbage Crop, first premium	10 00
G. A. Randall, Newbury, Onion Crop, first premium,	10 00

REPORTS OF COMMITTEES.

David W. Low, Gloucester, first premium,	10 00

Awarded by the Committee on Agricultural Implements,	$ 40 00
" " " Carriages,	10 00
" " " Dairy,	41 00
" " " Poultry,	41 00

Digitized by Google

Awarded by the Committee on	Bread,		14 00
" " "	Fruits,		266 00
" " "	Flowers,		55 00
" " "	Vegetables and Seeds,		150 00
" " "	Counterpanes and Rugs,		20 00
" " "	Leather Goods,		11 00
" " "	Manufactures, &c.,		26 00
" " "	Fancy Work, &c.,		72 00
" " "	Work by Children,		15 00
	Total,		$1,775 00

RECAPITULATION.

FARMS.

Amount awarded to	Farm,	$ 30 00	
" " "	Ploughing,	117 00	
" " "	Experiments with Manures,	25 00	$172 00

FARM STOCK.

Amount awarded to	Fat Cattle,	$ 10 00	
" " "	Bulls,	63 00	
" " "	Milch Cows,	112 00	
" " "	Herd Milch Cows,	30 00	
" " "	Heifers,	82 00	
" " "	Working Oxen, &c.,	46 00	
" " "	Town Teams,	60 00	
" " "	Steers,	12 00	
" " "	Stallions,	66 00	
" " "	Brood Mares,	33 00	
" " "	Family Horses,	33 00	
" " "	Farm and Draft Horses,	43 00	
" " "	Pairs of Draft Horses,	25 00	
" " "	Colts,	63 00	
" " "	Swine,	70 00	
" " "	Sheep,	18 00	
" " "	Poultry,	41 00	$807 00

Digitized by Google

FARM PRODUCTS.

Amount awarded to Fruit,		$266 00	
"	" " Flowers,	55 00	
"	" " Vegetables, &c.,	150 00	
"	" " Grain Crops,	36 00	
"	" " Root Crops,	30 00	
"	" " all other objects,	259 00	$796 00
	Total,		$1,775 00

Digitized by Google

LIST OF MEMBERS

OF THE

Essex Agricultural Society.

NOTE — Those marked with a * deceased since 1869; with † removed from the county. For Names of members deceased previous to 1869, refer to list published that year.

AMESBURY.

Bailey, O. S.
*Bailey, Thomas
†Binney, William C.
Hill, J. Henry
Huntington, B. F.
Jones, Philip
†Moore, Appleton
Morse, Daniel L.
*Morse, John S.
*Nichols, Stephen, Jr.
Sawyer, Aaron.

ANDOVER.

Abbott, Nathan F.
Abbott Asa A.
Abbott, George A.
Abbott, Moses B.
Abbott, Hartwell B.
Abbott, John B.
Abbott, Jonathan
*Abbott, Moody B.
Abbott, Stephen D.
*Abbott, Sylvester
Andrews, M. C.
*Ballard, Joshua
Bardwell, Simeon
Barnard, Edward H.
Bailey, Moses A.
Bean, Samuel G.
Blunt. Charles C.
*Bond, William
Buchan, George
Callahan, Robert
Carter, Charles S.
Carruth, Isaac
†Chamberlain, N. Jr.
*Chandler, Joseph
Chever, James O.
Chickering, William
*Chipman, Degrass
*Clark, Hobart
Chandler, Joshua H.
Cummings, C. O.
Downing, J. J.
*Farnham, John C.
*Flint, John
Foster, George
Foster, George W.
Foster, Moses
*Foster, Thomas C.
Flint, John H.
Foster, George C.
*Gray, David
Gutterson George
Harnden, Henry C.
Hazen, Nathan W.
Hidden, David I. C.
*Holt, Dean
Holt, E. F.
*Holt, Herman
*Holt, H. P.
Jenkins, John B.
Jenkins, E. Kendall
Johnson, Francis H.
Johnson, S. K
Kimball, Walter H.
Mason, George F.
*Merrill, William
Morton, Marcus
*Needham, Samuel
*Pettingill, Merrill
*Phelps, Herman
Pillsbury, Paul P.
Raymond, Samuel
Rea, Jasper
Robinson, Addison M.
Rogers, Fitzwilliam
Smith, Peter
Smith, Jas. B.
Smith, John L.
Smith, Benj. F.
Upton, Edward C.
*Whittier, Nathaniel

Digitized by Google

BEVERLY.

Appleton, Isaac
Avery, Mark B.
Baker, John I.
Baker, Stephens
Bell, John
Burnham, O. B.
Carter, John W.
Chase, Samuel
Conelly, Stephen
Cressy, Joseph
Dodge, Aaron
Dodge, Andrew
Dodge, Benjamin N.
Dodge, Benjamin S.
Dodge, Joshua S.
Dodge, Richard
Dodge, Forest C.
Dodge, Walter F.
*Dodge, William E.
Edwards, Ephraim A.
Edwards, Israel O.
Foster, David L.
Foster, Henry W.
*Friend, Seth
Friend, Seth
Giles, Benjamin V.
Gould, Thomas
*Hathaway, John
Haven, Franklin
Herrick, Joseph H.
Hill, Hugh
Johnson, Geo. E.
Larcom, David
*Lord, Abraham
Lord, Cyrus W.
Lawrence, C. A.
Lovett, Francis S.
Lummus, E. E.
*Marshall, Timothy
Mason, Alfred A.
Mason, Alphonso
Mason, George
Mason, Lyman
Meacom, John
Mitchell, John
Mitchell, Charles
Munsey, John G.
Paine, Charles C.
Pitman, Mark
Porter, Adoniram
*Porter, John
†Porter, Robert
Raymond, John W.
†Safford, Nathaniel T.
*Sheldon, Jesse
Standley, Sam'l D. G.
*Scott, Benjamin
Stephens, Augustus
Trask, James W.
Walker, Lawson
Waters, Richard P.
†Waters, William C.
Wilson, Joseph

BOXFORD.

Anderson, Chas. R.
Andrew, Isaac W.
Barnes, B. S.
Chadwick, Geo. W.
Cleveland, James P.
*Cleveland, Wm. N.
Cole, David M.
Cole, John K.
*Curtis, Francis
Day, John
Day, Mrs. John
*Day, Joshua T.
†Gould, Jacob
*Hale, Isaac
Hale, John
Harriman, Daniel F.
Herrick, Israel
Killam, Oliver P.
Kimball, Samuel
Ladd, John I.
†Palmer, Chas. Lane
Palmer, F. H.
Peabody, Stephen
Pearl, John M.
Perley, Charles
Sawyer, Thomas
Wood, Enoch
Wood, John T.

BRADFORD.

Bradstreet, Justin E.
*Carlton, James T.
*Chadwick, Henry M.
Cogswell, Doane
Cogswell, George
Cogswell, William
Day, Albert J.
Day, Hiram
Day, Lafayette
Day, Royal
*Elliot, William
Ellis, John A.
Emerson, Charles B.
Haseltine, Thomas
Haseltine, William
*Holt, H. E.
Hopkinson, Sam'l W.
Johnson, A. P.
*Johnson, Charles G.
Johnson, Laburton
Kimball, Albert

Digitized by Google

Kimball, A. Laburton
*Kimball, David
Kimball, Henry G.
Kimball, Leverett
*Kimball, Seth
*Kimball, Sylvester
Kimball, William B.
Kimball, W. Eustace
Little, M. P., Mrs.
*Locke, Oliver
Merrill, John F.
Morse, C. E.
O'Brien, John
Ordway, Alfred
*Ordway, Enoch F.
Ordway, G. W.
Ordway, Warren
Peabody, Frank
Peabody, Daniel
Perley, John
Perry, Samuel B.
†Sawyer, Samuel C.
Tewksbury, John B.
Thornton, William
Webster, Charles E.

DANVERS.

Abbott, L. L.
Allen, Henry C.
†Adams, Marshall C.
Bartlett, James A.
Berry, Allen A.
Berry, Eben G.
Batchelder, J. Q. A.
Bradstreet, Elijah
Blake, John A.
Brown, William H.
Barnard, Willis
Black, William
Boardman, I. P.
Brown, Amos
*Brown, Charles W.
Butler, J. C.
Clark, N. J.
*Cummings, Sam'l P.
†Devereux, Geo. F.
Demsey, L. P.
Dodge, Elnathan
Dodge, Francis
*Dodge, William, Jr.
Eaton, Winslow W.
Fellows, Alfred
Fisher, Franklin W.
Faxon, George
Fowler, Augustus
Fowler, Samuel P.
Fuller, Solomon
*French, George W.
Gaffny, Cornelius
Gookin, Samuel F.
Gould Charles H.
Grosvenor, David A.
Grout, John
†Holden, Seth
Hyde, Elisha G.
Hill, Edward L.
*Ham, Elias
Hood, R. B.
†Hatch, W. G.
Hathaway, D. C.
Hood, Joseph E.
Hutchinson, Edward
†Ham, Albert G.
Kimball, Joel, Jr.
Kirby, Patrick
Lane, Benjamin T.
Langley, J. R.
Lawrie, James
Learoyd, A. P.
Lefavor, Mrs.
Legro, Edmund
Legro, John C. P.
Lewis, Samuel W.
Lyford, Francis W.
*Massey, S. D.
Martin, George B.
Martin, Walter F.
McCrillis, Ransom F.
*Merrill, Ernest S.
Merrill, Levi
Merrill, Walter S.
Moulton, Beverly S.
Mudge, Edwin
Mudge, Augustus
†Murphy, Patrick
Nichols, Andrew
Newhall, Benj. E.
Nourse, Samuel W.
Page, Nathan, Jr.
Patch, Abraham, Jr.
Peart, William B.
Perley, A. P.
*Perley, Frederick
Perkins, Henry A.
Perley, Edward P.
Perry, James M.
Pettingill, David A.
Peabody, George H.
Pillsbury, H. H.
Pope, Ira P.
Porter, Benjamin F.
Pratt, Amos,
Preston, Charles P.
*Preston, John
*Preston, John S.
*Preston, Samuel
Prince, Amos
Putnam, Ansel W.
Putnam, Charles O.
*Putnam, Eben
Putnam, Edwin F.
Putnam, Francis P.
Putnam, Israel H.
Putnam, Joseph C.
Putnam, J. A.
Putnam, Joel
Putnam, Orrin
Putnam, Otis F.
*Putnam, Rufus
Pratt, George
Porter, John W.
Pope, Daniel P.
Richardson, J. B.
Richardson, James
Richards, Daniel

Digitized by Google

Richards, C. S.
Richards, Geo. D.
Ropes, Joseph W.
Rice, Charles B.
Sears, John A.
Silvester, Joshua
Spaulding, Sam'l W.
Swan, Sylvanus B.
Swinerton, John
Smart, John L.
Swazey, E.
Spring, Jacob E.
Tapley, Charles
Tapley, George
*Tapley, Gilbert
Tapley, Gilbert A.
*Tapley, Nathan
*Tufts, Benjamin F.
Tracy, Joseph
Upton, Franklin W.
Waite, Peter
Walcott, Wm. H.
Waldron, E. T.
Wallis, Samuel
Warren, Aaron W.
*Warren, Jonas
Weston, Wm. L.
White, Amos A.
White, Henry A.
*Wilkins, Joel
Woodis, Alden B.
Whipple, John F.
Wilkins, Fred'k A.

ESSEX.

Andrews, Elias
*Andrews, Elihu
Andrews, Joseph
Andrews, Miles S.
Burnham, D. Brainard
Burnham, Ira F.
Burnham, Washington
Burnham, Wm. Howe
*Choate, David
Choate, Rufus
Cogswell, Chas. B.
Dodge, Grover
Haskell, David L.
Haskell, George
Knowlton, Aaron
Knowlton, David
Knowlton, Moses
Knowlton, Herbert A.
Knowlton, Perry B.
Lee, Edward K.
Low, Aaron
Low, Josiah
Lufkin, A. E.
McDonald, Daniel
Mears, Wm. H.
Perkins, John
Story, Andrew
Story, Ephraim

GEORGETOWN.

*Adams, George E.
Bateman, A. P.
*Boynton, George W.
Butler, Oliver S.
Chapman, Jonathan
Dole, Moody S.
Dole, Richmond
Harriman, Hiram N.
Hoyt, John A.
Illsley, I. Adams
Jewett, Jacob F.
*Jewett, Robert
Lambert, Nathaniel
Little, Samuel
Lovering, John H.
Moulton, Daniel E.
*Nelson, Charles
Nelson, Sherman
Nelson, Solomon
Nelson, William
Osgood, Stephen
Pettingill, Henry
Pillsbury, J.
Poor, Samuel T.
Preston, John
*Sanborn, George W.
Spofford, Sumner P.
Tenney, George J.
Tenney, Gorham D.
Tenney, Milton G.
Tenney, Moses
Tenney, Orlando B.
Tenney, Richard
Wheeler, William S.
*Wildes, Green,
*Wilson, Issac

GLOUCESTER.

Atkinson, John
Babson, Daniel T.
Babson, Fitz J.
†Babson, Gustavus, Jr.
Babson, Horatio
Babson, John J.
Barrett, Charles P.
Bradford, George R.
Bray, Aaron W.
Brown, Edward H.
Burnham, A. M.
Burnham, H. A.

Digitized by Google

Burnham, S. A.
Butler, Benjamin F.
Calef, John C.
Campbell, C. H.
Carter, John S.
Carter, Sherman J.
Clark, John
Cole, Israel H.
Conant, Thomas
Cook, Benjamin F.
Corliss, Benjamin H.
Corliss, John
Cressy, Curtis C.
Cronin, John
Dale, Eben, Jr.
Davis, James
Davis, William P.
Day, Abraham
Dennin, George
Dennison, C. W.
Dodd, Stephen
Dolliver, John H.
Dolliver, William C.
Dolliver, William P.
Dyer, J. Franklin
Emanuel, Henry
Fears, Robert
Fears, Robert R.
Ferguson, Thomas B.
Foster, Jeremiah
Friend, Elbridge G.
Garland, Joseph
Gilbert, Addison
Griffin, Bennett
Griswold, A.
Grover, Charles E.
Harvey, Alonzo F.
Haskell, H. C. L.
*Haskell, Thomas
Haskell, William H.
Herrick, Gardner W.
*Hough, Benjamin K.
*Hoyt, Edward C.
James, George
James, Samuel
Knowles, Thomas J.
Lane, Andrew
Lane, George
Lancaster, T. S.
Lawrence, R. C.
*Lindberg, A. F.
Loring, Francis M.
Lovett, John H.
Low, David W.
Low, Gorham P.
Marr, Chester, Jr.
Mayo, Israel C.
Mayo, Josiah, Jr.
Merchant, E. W.
Norwood, George
Parsons, William, 2d
Parsons, W. Frank
Patch, Isaac
Pattillo, Alexander
*Pearce, Edward H.
Perrin, Henry S.
*Perrin, William H.
Pew, William A.
Phillips, N. H.
Plummer, David
Presson, David S.
Price, Augustus E.
Proctor, Joseph O.
Proctor, Wilbur, F.
Ricker, Richard W.
Roberts, Joshua
Rogers, Allen
Rogers, John S.
Rogers, John S. E.
Rust, William P.
Sanford, H. G.
Sawyer, Samuel E.
Shepard, Joseph C.
Smith, Benjamin H.
Somes, John E.
Stacey, Eli F.
Stacey, John H.
Stanwood, Barnard
*Staten, Edward
*Stevens, Zachariah
Story, Cyrus
Thompson, Charles P.
Tibbetts, Robert A.
Todd, John
Webster, Nathaniel
Wetherell, M. L.
Wilson, John J.
Witham, Addison
Wonson, Augustus H.
Wonson, F. G.
Wonson, George M.
Wonson, J. W.
York, Nathaniel S.

GROVELAND.

Atwood, Daniel
Atwood, Moses P.
Balch, Thomas H.
Burbank, John
*Clark, Elijah
Curtis, Edwin T.
†Day, Isaac C.
Fegan, Henry C.
George Edwin B.
Hardy, Ira
Harrington, Edward
Hopkinson, W. H.
*Kimball, Charles
Ladd, Nathaniel E.
Longfellow, Samuel
*Ordway, Leverett S.
Ordway, Moody
*Parker, Benjamin
Parker, Eldred S.
Pemberton, L. K.
Savary, Charles G.
Savary, Charles P.
Spofford, Jeremiah
Spofford, Morris
Stickney, Abel
Stickney, Charles
*Stickney, Daniel H.
Stickney, Niles T.
Stiles, Charles F.
Walker, George S.
Wardwell, Z. C.
Woodman, Ira S.

Digitized by Google

HAMILTON.

Abbott, Joseph B.
Allen, Francis R.
*Brown, Jacob
Brown, William A.
Creamer, Geo. C.
Dane, Ephraim A.
*Dane, Francis
*Dane, George
Dane, George E. F.
Dane, Samuel
Dane, William A.
Dane, Sylvester
Dodge, Albert W.
*Dodge, Allen W.
Dodge, Emerson P.
Dodge, George B.
Dunnels, Ira A.
Ellis, George W.
Gregory, Samuel B.
Kimball, Isaac W.
Knowlton, Isaac
Knowlton, Isaac F.
Knowlton, Joseph
Lamson, Jarvis
*Morgan, Luther S.
Norris, George
Patch, Mrs. Oliver
Porter, Dudley H.
Porter, Oliver
Rankin, Eli C.
Rankin, George C.
Robinson, E. P.
Safford, Daniel E.
Smith, Alvin
Smith, John
*Whittredge, John
Whipple, Em. A.
Winslow, Aaron
Winslow, G. W.

HAVERHILL.

Berry, J. M.
*Bartlett, James A.
Bodwell, Stephen
Brickett, Barnard
Brickett, Daniel
*Brickett, Daniel H.
Brickett, Franklin
Butters, Charles
Caldwell, William
*Carlton, John
Carlton, Samuel
Carlton, William B.
Carlton, Nathaniel
Chase, Abel W.
Chase, C. W.
Cheever, H. W.
*Clark, William P.
†Coburn, A. M.
Coffin, George
Cook, Justin T.
Corliss, Charles
Cummings, Henry
Currier, Samuel M.
Cushman, R. P.
Davis, George W.
Davis, Phineas E.
Dewhurst, James
*Dunbar, Charles H.
Duncan, George W.
Eaton, Harrison
Elliott, Samuel
Elliott, Samuel H.
Emerson, Albert
Emery, Benjamin E.
Emery, Moses G. J.
Farnsworth, J. H.
†Farrar, Joseph E.
Fellows, Samuel
Fitts, D. F.
Flanders, Daniel D.
†Fletcher, Edmund
*Frothingham, E. G.
Gale, John E.
Gale, James E.
Gage, Edmund
*Gardner, John
Goodwin, Rufus
*George, M. D.
Gile, James F.
Gilman, John P.
Goodrich, T. J.
Grieves, J.
Hale, Samuel
*Harding, Thomas
*Harmon, David P.
Haseltine, Amos, Jr.
*Haseltine, Hazen
Holt, Charles
†Hooke, Daniel
Howe, Moses
*Howe, Nathaniel S.
*Hoyt, George H.
*Hoyt, Humphrey
Hunking, C. D.
Ingalls, E. T.
Jeffers, William
*Keeley, John
*Kittredge, Alfred
Lackey, Andrew
†Lee, George W.
†Little, Edmund B.
Little, J. G. S.
Marsh, John J.
Merrill, William
Mitchell, E.
Mitchell, Seth K.
Moody, H. L.
Morse, John
Morse, S. E.
Merrill, Gyles
Nichols, James R.
†Nichols, John A.
Nichols, John B.
*Noyes, James
Noyes, Johnson
†Oberton, W. W. S.
Ordway. Joshua H.
*Patch, Paul D.
*Plummer, Hiram
Porter, Dudley

Digitized by Google

*Porter, Ebenezer
Putnam, Moses W.
Randall, John P.
Richards, William B.
Richardson, John B.
Ridgway, Joseph N.
*Roberts, Stephen
Robinson, Edwin
Savary, Robert
*Sleeper, Sherburne C.
*Slocum, Rufus
Smiley, James V.
Smith, Jesse
Saunders, A. C.
Saunders, Thomas
Spiller, J. B.
Stewart, John
Swett, Jackson B.
Taylor, Levi
Taylor, Martin
Taylor, Oliver
Titcomb, Benaiah
*Tompkins, Christ'r
Towle, Samuel K.
†Turner, James
Wadleigh, Levi C.
Wales, Herbert E.
*Webster, David
Webster, Ebenezer
Webster, E. F.
*Webster, Nathan
Webster, Richard
†Welch, Ezra B.
West, H. K.
West, James F.
West, Thomas
Wheeler, Allison
White, James D.
Whittier, Alvah
*Whittier, Leonard
Whittier, Warner R.
Winchell, James H.
*Wingate, Moses

IPSWICH.

*Andrews, David
Andrews, Theodore
Appleton, Francis R.
Appleton, B. D.
Appleton, Daniel F.
Baker, S. N., Jr.
Bond, James W.
*Bray, Frederick
Brown, Aaron F.
Brown, John
Brown, Manasseh
Brown, William G.
Caldwell, Abraham
Clark, Erastus
Cogswell, Ebenezer
*Cogswell, William
Conant, Gilbert
*Dodge, Richard T.
Fall, Tristam B.
†Farley, Alfred M.
*Farley, Joseph
†Farley, Robert, Jr.
Fellows, Alonzo B.
Gould, John J.
*Grant, John
Grant, Joshua B.
Green, George H.
Haskell, George
Hobbs, John
Hodgdon, George
Hodgkins, Augustine
Horton, Joseph
Hunt, Samuel
Hurd, Y. G.
Jewett, Israel K.
Jordan, Robert Mrs.
Kimball, Charles
Kimball, Daniel
Kinsman, Joseph F.
Kinsman, William H.
†Locke, Calvin
*Low, Thomas
McFarland, L.
Marshall, Joseph
†Merrill, Ezekiel O.
Mitchell, Frederick
Norwood, C. J.
Perkins, J. E. B.
Perley, David T.
*Potter, Asa T.
Rogers, Isaiah A.
Ross, Joseph
Shatswell, Nathaniel
Smith, Webster
Stone, Augustine
Story, Alden
Tappan, Amos
Treadwell, William
Underhill, J. C.
Wade, Asa
†Wade, William F.
Waite, Abraham D.
Whittier, Maynard
*Worcester, Ira

LAWRENCE.

Ames, M. B.
*Ambrose, Nathaniel
Bodwell, S. B.
Bodwell, Asa M.
†Bryant, Oliver
Cabot, George D.
Currier, Eben B.
Currier, J. Merrill
*Decker, J. M.
Drew, J. D.
Durant, Adolphus
Durant, W. A.
Emery, Levi
Fiske, E. A.
Flynn, Edward
French, A. J.
Gile, W. F.
Gilman, Frederic

Digitized by Google

Goodwin, John
Harmon, Nathan W.
Herrick, H. G.
Herrick, James D.
Hills, George W.
Hood, Gilbert E.
*Howard, J. B. D.
Hubbard, Leavitt
Holt, Lewis G.
Kimball, Wm. F.
†Kimball, Josiah
†Kimball, Wm. M.
Keleher, W. A.
Lamb, William D.
*Mallard, L. Mrs.
Merrill, George S.
Page, E. F.
Page, Edward
Rollins, John R.
Russell, W. A.
Russell, George W.
Robinson, P. B.
Richardson, E. P.
Saunders, Daniel
*Stevens, William
Shattuck, Charles
Small, Henry
Vietor, F. M.
Warren, Albert
*Webster, Charles
Wilder, G. W.
Wright, W. H. P.

LYNN.

*Allen, Jacob A.
Baker, Ezra
Batchelder, John
†Black, James D.
Breed, Andrews
Breed, Henry A.
*Breed, Nehemiah, Jr.
Brown, Ira P.
Chase, Nathan D.
Chamberlain, Wm. D.
†Coggeshall, J. H.
*Collins, Ezra,
Davis, Edward S.
Emery, George E.
Fay, William P.
Graves, Samuel
Harris, N. S.
Hawkes, Nathan M.
*Healy, Mark
Hovey, Rufus P.
*Keene, George W.
Kimball, Rufus
Merrill, Samuel A.
Merrill, E. H.
*Merritt, Charles
Newhall, Hiram L.
Newhall, Asa T.
Norris, George, Jr.
*Nye, James M.
*Osborn, William
†Osborn, William H.
Potter, Edward P.
Putnam, F. W.
Rankin, John D.
Rhoades, Jacob
Roney, Simon J.
*Saunderson, Jos. N.
Shorey, John L.
Shorey, George L.
Spinney, William N.
Sawyer, J. A. J.
Usher, Roland G.
†Wyman, Isaac

LYNNFIELD.

Brown, Joseph
Danforth, John
*Emerson, D. P.
*Emerson, Hubbard
Hawkes, George L.
Herrick, George E.
Mansfield, Andrew
Newhall, Josiah
Perkins, John
†Perkins, John H.
*Richardson, Chas.
Smith, Henry E.
†Smith, Joseph
†Symonds, George W.

MANCHESTER.

Allen, Luther
Allen, Wm. H.
Burnham, Frederick
†Chase, Joseph S.
Cheever, John H.
Cheever, William M.
Fields, James T.
Fitz, William F.
Friend, Daniel W.
*Gentlee, Thomas P.
Hildreth, John D.
Jewett, Alfred W.
Knight, Henry
Knight, John, Jr.
Lee, Allen
Lee, John
Price, John
Rabardy, Julius F.
Smith, A. W.
Sturgis, Russell, Jr.
*Tappan, Benjamin
*Tappan, Ebenezer
Tappan, Israel F.
Tappan, Lewis N.

Digitized by Google

MARBLEHEAD.

Alley, Amos P.
Alley, James E.
Alley, Reuben
Alley, Franklin
Appleton, Thomas
Childs, Addison
Childs, Caleb
Cloutman, Henry
Dennis, John
Gregory, J. J. H.
Hathaway, Seth W.
Hathaway, Joseph B.
†Millett, Joseph
Nutting, John
Paine, Thomas T.
Robinson, Frederick
*Stone, John
Ware, Benjamin P.
Ware, Horace
Warren, David
†Wyman, Israel
†Wyman, Luke

MERRIMAC.

Currier, J. M.
*Evans, John
Goodwin, A. E.
*Gunnison, William
Haskell, Wm. H.
Loud, C. H.
Nichols, Chas. H.
Patten, T. B.
Sargent, J. B.
*Sargent, Orlando
Sargent, Patten
Sargent, P. Willis
Sawyer, Thomas C.
Tewksbury, D. M.

METHUEN.

*Barker, J. B.
*Barker, Stephen
Bradley, Leverett
Bradley, Frank J.
Buswell, Jos. E.
Butters, W. H.
Butters, George W.
Currier, Daniel
*Davis, John
*Dow, Lorenzo
Dow, Virgil
Emerson, Jacob, Jr.
Frederic, John W.
Gage, George W.
Gutterson, B. J.
Goss, Charles E
Herrick, Fred S. C.
Hicok, S. S.
*How, Christopher
How, Joseph
How, Joseph S.
Ingalls, Charles
*Ingalls, Joseph F.
*Low, John
Morrison, D. T.
Morse, Jonathan
Nevins, David
Noyes, David W.
Patterson, D. H.
Phippen, G. S.
*Rollins, Amos C.
*Russ, John
Sargent, S. C.
Sleeper, William C.
Thurlow, J. E.
Tozier, C. L.
†Welch, John

MIDDLETON.

Berry, Jonathan
Berry, William
Currier, George A.
Flint, James
Hutchinson, J. A.
Noyes, A. P.
Phelps, William A.
Stiles, David
Stiles, Farnham
Stiles, Farnham, Mrs.
Stiles, Hiram A.
Wellman, John R.
Winslow, Henry B.

NAHANT.

Goodale, Byron

NEWBURY.

Adams, Charles
Adams, Charles W.
*Adams, John C.
*Adams, John J.
Allen, John W.
Bray, Richard S.
Bray, George W.
Boynton, Charles
Caldwell, David S.

Digitized by Google

Colman, Moses
Goodrich, Wm. F.
Howard, Horatio M.
Illsley, Paul M.
Jaques, Richard
Jaques, Richard T.
Jaques, William
Kent, John N.
Kent, Joshua N.
Knight, Joseph
Kent, Otis L.
Kent, Edward
Kent, Albert S.
Langley, William C.
Little, E. C.
Little, E. F.
*Little, Edward H.
Little, Joseph
Little, Nathaniel
*Little, Silas
Little, Stephen W.
*Little, Tristram
Little, William
Longfellow, H. F.
Longfellow, J.
Longfellow, J. Mrs.
Lucy, Gideon R.
Lunt, Charles M.
Lunt, J. Austin
*Lunt, Joseph
Moody, N. W.
Mann, Otis
Newman, Sidney F.
Noyes, James
Noyes, Luther
Noyes, Moses K.
Perkins, Charles L.
Perkins, W. W.
Plummer, Daniel, Jr.
Plummer, G. H.
*Plummer, Greenleaf
†Poole, B. P. Mrs.
Randall, G. A
Rogers, Abial
Rolfe, Joseph N.
Tenney, H. L
Tenny, Daniel
Thurlow, William
Woods, C. W.

NEWBURYPORT.

Adams, Paul D.
Adams, J. Quincy
Adams, Rufus
*Akerman, John
Akerman, Joseph
Ashby, William
Balch, John H.
Ballou, C N.
Bartlett, T. K.
Batchelder, Daniel C.
Battell, Elbridge
Boardman, Isaac H.
Brewster, William H.
Bricher, William
*Brown, David F.
Canney, Hiram
Capers, Thomas
Coffin, Frederic J.
Colby, George J. L.
Colby, George W.
*Colman, Daniel T.
Colman, James C,
Colman, William T.
Currier, Warren
*Cushing, Caleb
Cutter, Eben P.
*Davis, Benjamin
Delano, Otis
Dyer, J. R.
*French, Curtis
Gale, Stephen M.
George, George
Griffin, Eliphalet
*Hale, Isaac, Jr.
Hale, Joshua
*Hale, Josiah L.
Hamlet, Daniel
Hart, James S.
*Horton, Daniel
Huff, William
Huse, William H.
Ireland, Charles H.
Jackman, George W.
*Johnson, William P.
Jones, William
†Kelley, E. G.
Little, John G.
*Little, Moses S.
Lunt, Charles
*Lunt, Micajah
*Marston, Stephen W.
Merrill, Enoch
Merrill, Samuel, Jr.
Morrison, Daniel T.
Morse, James M.
Morss, Joseph B.
Moseley, Edward A.
Moseley, Edward S.
Moulton, Henry W.
Moulton, Joseph
Newhall, Asa T.
*Newhall, Joshua L.
Northend, E. T.
Noyes, William, Jr.
Ordway, Parsons
*Page, John T.
Pearson, J. P.
Perley, R. M.
*Pettingell, Moses
Plummer, Moses A.
Plummer, Wm. C.
*Remick, John E.
*Robinson, J. D.
Shoof, Henry
Smith, David
Smith, Edmund
Smith, Joseph B.
Smith, Eunice L.
Smith, Robert A.
Stanley, B. F.
Stanley, J. C.
†Stearns, Edwin
*Stone, Jacob
Sumner, John

Digitized by Google

Tappan, Samuel B.
Tilton, Enoch
Tozer, Hiram
Titcomb, Paul
Toppan, Edward S.
*Williams, Robert
Winkley, J. Otis
Winkley, Paul T.
Wood, David
Winkley, Paul T., Jr.
Young, Hiram

NORTH ANDOVER.

†Appleton, S. F.
Bailey, Charles P.
*Berry, Jacob
Berry, Albert
Blake, J. P.
Butterfield, Chas. A.
Carlton, Daniel
Carlton, Joseph
Carlton, Daniel A.
Crosby, Josiah
Chever, William J.
Davis, George G.
Davis, George E.
Davis, George L.
Dale, William J.
Dale, William J. Jr.
Farnham, B. H.
Farnham, Jacob
Farnham, J. L.
Foster, J. Frank
Foster, John P.
†Foster, J. Prescott
Foster, William
†Foster, Samuel
Foster, Orrin
*French, George
French, J. D. W.
Fuller, Abijah P.
*Gage, John C.
Goodhue, Hiram P.
†Green, Arthur M.
Gardner, D. F.
Greene, E. W.
Goodwin, John O.
Hill, Samuel B.
†Jaquith, Chris'r P.
Jenkins, Benjamin F.
Jenkins, Milon S.
Johnson, Theron
Johnson, James T.
Johnson, Charles F.
*Kittredge, Joseph
Loring, George B. Jr.
Manning, John
Montgomery, Jas. A.
Nason, James
Osgood, Isaac F.
Peters, Nathaniel
Peters, William
Phelps, W. W.
Phelps, H. L.
Poor, James
*Poore, Matthew
Reynolds, James H.
Reynolds, Wm. B.
†Slade, Jarvis
*Spaulding, Amos
Stevens, Moses T.
*Shattuck, Thomas C.
Sutton, Eben
Symonds, Frederick
†Wardwell, Orin
*Weed, Dan
Wilson, Abiel
Wiel, Louis
Wardwell, T. O.
Wiley, John A.

PEABODY.

Abbott, Alfred A.
Allen, Lewis
Appleton, Francis H.
*Ayer, Hazen
Bancroft, Sidney C.
Barrett, E. P.
Buxton, Henry V.
Blake, Walter F.
Brown, W. H.
*Basford, P. R.
Batchelder, Mal'hi F.
Blaney, Stephen
Bodge, Horatio
Buxton, Daniel, Jr.
Buxton, Joshua
Buxton, Robert G.
*Clement, John B.
Colcord. J. L.
*Cook, Henry
Curtis, Andrew
*Davis, Mark
Dole, Wm. F.
Emerton, C. F.
Fairfield, Joseph
Foster, Ira
Gardner, Henry
Goodale, Jacob O.
Goodale, J. P.
†Gunnison, Elisha
Hardy, Isaac
Hills, Benjamin M.
†Hoyt, Joseph
*Hubbard, John L.
Huntington, Benj.
Hutchinson, Samuel
Hutchinson, C. K.
Jacobs, Edward W
*King, Amos
*King, Eben
*King, Henry A.
King, J. Augustus
King, James P.
King, Jonathan
King, Perley
Linehan, John
Little, William H.
†Low, Caleb
Marsh, Fred

Digitized by Google

Marsh, Frank
Marsh, James
*Marsh, John
*Marsh, Philip
*Merrill, Wingate
Messer, F. B.
Needham, George A.
Needham, Joseph S.
Newhall, Orlando F.
Osborn, Philip L.
Osborne, Abraham C.
Osborne, David
*Osborne, Kendall
*Osgood, Joseph
Pepper, George W.
*Peirson, A. L.
*Poole, Fitch
*Poor, Eben S.
*Poor, Henry
†Potter, William
*Preston, Moses
Proctor, Abel
*Proctor, John W.
*Proctor, Thorndike
Richardson, W. B.
Saltonstall, Henry
*Sanger, Abner
*Sawyer, Asa
*Shackley, Moses A.
Southwick, Sumner
Stevens, John V.
Sutton, William
Sweet, Samuel
Taylor, George W.
Thomas, Josiah B.
*Upton, Eben S.
Upton, Stephen
Viles, Bowman
Walcott, John G.
Wallis, David B.
Walton, George D.
Ward, Winsor M.
*Wheeler, Benjamin
Wheeler, Benjamin S.

ROCKPORT.

Blatchford, Eben
Estes, Alden C.
*Haskell, Benjamin
Hodgkins, John B.
Lane, Andrew
Lowe, Mrs Martha J.
Lowe, William
Manning, James
Manning, John J.
Manning, William N.
Marshall, John W.
Mills, Richard P.
Patch, William H.
*Pool, Ebenezer
*Row, Ebenezer
*Rowe, Jabez
Smith, Allen
Smith, Allen Jr.
Smith, Beman C.
*Smith, David

ROWLEY.

Blodgette, George B.
Cressy, John S.
Dole, Charles
Dummer, Nath'l N.
Foss, Joshua
Hale, Clara A.
*Hale, Daniel J.
Hale, Joseph
Hale, Thomas
Lambert, Mary G.
Mighill, Charles P.
Nelson, David O. Jr.
*Payson, Moses P.
Pike, John
Prime, Daniel B.
Potter, Edward H.
*Proctor, George
Smith, George J.
Titcomb, Albert
Todd, Daniel G.
Todd, John F.

SALEM.

Andrews, Randal
Andrews, Samuel P.
Almy, James F.
Abbott, Nathaniel
Barton, Gardner
*Barton, William C.
*Bowdoin, Willard L.
Brookhouse, Robert
Beckford, C. H.
Chamberlain, James
*Chase, Stephen A.
Curwen, Samuel H.
Clark, Charles S.
Chase, William
Collins, William
*Cressy, Josiah P.
Cross, John D.
Daland, John
Endicott, William C.
Endicott, William P.
Felt, John
Fellows, Israel
Fiske, Joseph E.
Foote, Caleb
Foster, Joseph C.
Foster, William H.
Foster, William J.

Digitized by Google

Goodhue, William P.
Gray, Benjamin A.
Gibney, George H.
Gibney, John
*Gardner, D. B.
Hathaway, John
*Huntington, Asahel
Hale, Henry,
Hale. Henry A.
Hale, Joseph S.
Horton, N. A.
Ives, John M.
Ives, John S.
*Ives, William
Jones, Samuel G.
Jackson. Eben
Kimball, James
Kinsman. John
Kemble Arthur
*Lee. John C.
Lord, William
Loring, George B.
Lander, Wm. A.
Mack, William
*Maloon, William
Manning, Robert
Merritt, David
Messervey, Wm. S.
*Metcalf, Benjamin G.
*Milton, T. Payson
Morse, Ebenezer H.
Newhall. Benjamin S.
Newcomb, Caleb
†Nichols, George. Jr.
Northend, William D.
Noyes. E. K.
Oliver, H. K.
Oliver, Samuel C.
*O'Shea, M.
Peabody, John P.
*Peirson, Edward B.
Perkins, E. R.
*Perkins. J. C.
Phillips, Willard P.
Phippen, George D.
Pickering. John
Potter, Daniel
*Proctor, William
Pulsifer, Joseph
Pettingill. L. D.
Pettingill, S. J.
Pickering, Wm, Jr.
Pickering, Benjamin
Page, John G,
*Roberts, William
†Robinson, J. A.
Rogers, A D.
Rogers, George W.
*Rogers. Richard S.
*Russell. John L.
*Reynolds, Moses C.
Reynolds, Henry E.
Ropes, John C.
Saunders, Robert J.
Saunders, William
Smith, Andrew
*Smith. Caleb
Shreve, O. B.
Stimpson, James C.
Story, Augustus
Stowe, Volney C.
Streeter, Gilbert L.
Ware, Horace
Ware, Horace C.
Wentzell, David
Wheatland, Henry
Winkley, Enoch
†Wyman, Rufus
White, Frank
Waters, David P.

SALISBURY.

*Ayer, James H. B.
*Clark, Thomas J.
Cole, Augustus K.
*Currier, Jacob
Currier, W. H. B.
Evans, Benjamin
*French, Moses
*Gale, Josiah B.
Pendergast, J. F.
Pray, Rufus

SAUGUS.

Hatch, Anthony
Houghton, T. O. W.
Hawkes, Samuel
Newhall, Herbert B.
Newhall, Joseph
Noble, William
Penney, George H.
Robinson, E. P.
*Sweetser, George H.
Whitehead, Joseph

SWAMPSCOTT.

Crosman, S. F.
Holden, Philander
Mudge, E. R.
Palmer, John P.
Phillips, J. B.
*Pitman, Samuel C.
Rowe, Allen
Stetson, Charles A.
Washburn, John

Digitized by Google

TOPSFIELD.

*Adams, B. P.
*Balch, Abraham
Batchelder, Ezra
Billings, Augustus T.
Bradstreet Dudley
Clark, David
*Cleveland, John
*Elliott, Israel D.
*Emerson, T. M. P.
Gould, Ariel H.
Herrick, Charles
Hood, S. D.
*Hubbard, William
Lamson, J. Arthur
Leach, Thomas K.
Manning, James
*Munday, William
*Merriam, Sidney A.
Merriam, Arthur M.
Peabody, Charles J.
Perkins, Moses B.
Pierce, T. W.
Poole, Benjamin
*Rea, John Jr.
Ward, Richard
Wildes, Moses
Wilson, James
Woodbury, Isaac M.

WENHAM.

Alley, Henry
*Batcheler, Joseph
Bodge, Richard F.
Cole, Zachariah
*Dodge, Andrew
*Dodge, Ezra
Dodge, George A.
Dodge, George F.
*Dodge, Rufus A.
Dodge, William P.
Edwards, Francis R.
Fiske, Alfred R.
Gould, Amos
*Hadley, Franklin
Hobbs, A. F.
Hobbs, Henry
Kavanagh, J.
Morgan, William B.
Peabody, George W.
Parsons, George W.
Patch, Henry
Pingree, Wm. G.
*Porter, William
Perkins, Nathaniel P.
Robinson, John L.
Taylor, Geo. H.
Tilton, George H.
Waters, Robert H.

WEST NEWBURY.

Bailey, William P.
Bradley, C. S.
*Bailey, Uriah
Boynton, Eben M.
Brown, Hayden
*Brown Osgood
Brown, Robert L.
Carr, George W.
Carr, James
*Carr, Moses
Carr, Samuel
Chase, Samuel S.
Follansbee, B. A.
Flook, Geo. L.
Goodridge, David L.
Goodridge, H. M.
Goodridge, Joseph
*Goodwin, Thos. C.
Gordon, Joseph Z.
Gowen, Oscar
Gowen, Ezekiel
*Griffin, B. F. S.
Hosam, George
Jacques, Romulus
Little, Edmund
Little, Otis
Merrill, Elbridge
Merrill, William
Merrill, William E
Merrill, M. B.
*Moody, Samuel, Jr.
Moore, Alfred L.
*Mosely, Charles C.
Moulton, Daniel
Nelson, Daniel P.
Newell, Joseph
Newell, Richard
*Noyes, Anson W.
Noyes, Stephen E.
Ordway, Cyrus K.
*Ordway, George N.
Ordway, Cyrus D.
Ordway, Thomas G.
Ordway, Hanson
Ordway, Chas. W.
*Pillsbury, Daniel
Poor, Moses H.
Poore, Amos
Poore, Ben: Perley
Poore, George H.
Ridgway, M. Moses
Ridgway, M. M., Jr.
Rogers, Calvin
*Rogers, Charles
Rogers, George C.
Rogers, Hiram
Ridgway, Sarah L.
Smith, Amos
Smith, David
Smith, James
Smith, Moses
Stanwood, Moses P.
Thurlow, George
Thurlow, Stephen C.
Thurlow, Thomas C.
Titcomb, Silas M.

Digitized by Google

NON-RESIDENTS.

Balch, William H., Malden;
Balch, Eustis, California;
Bodwell, Henry A., Keene, N.H.;
Blunt, Milton J., Springfield, Ms.;
Bodwell, Jos R., Hallowell, Me.;
Brackett, H. Clark, Virginia;
Brocklebank, S., Rumney, N. H.;
Burnham, Choate, Boston;
Clark, Joseph F., Boston;
Currier, Wm. A., Boston;
Chapin, W. C., Providence, R.I.;
*Cleaveland, N., Jersey City, N.J;
Cleaveland, H. W. S., Chicago;
Colby, Chas. A., New York;
Chase, Jos. S., Malden;
Carey, James, Quincy;
Caldwell, L., Jacksonville, Fla.;
Carey, James, New York;
Dole, Francis F., Chicopee;
Dodge, John S., Chicopee;
Eaton, Thomas, Harristown, Ill.;
Felton, Wm. H., Marlboro, Ms.;
Flint, Chas. L., Boston;
Fowler, W. W, Plymouth;
Fernald, Henry B., Washington;
Farrar, Joseph E., Boston;
Foster, James B., Melrose;
Flagg, Wilson, Cambridge, Mass.;
*Flint, Thomas, Boston;
Flint, Horace P., Boston;
French, Chas., Davenport, O.;
French, Geo. H., Davenport, O.;
Gannett, W. W., Boston;
Green, John A., New York;
Hadley, William, Boston;
Hayes, J. F. C., Iowa;
Hill, Moses, Revere;
Hill, Mark F., Derry, N. H.;
Holt, Jos. S., New York City;
Hubbard, J. G., Hampstead, N.H;
Hutchinson, C. H., Rhinebeck;
Juul, Conrad, Minnesota;
Kimball, Jonathan, Boston;
King, D. Webster, Boston;
Knight, J. M., Maine;
Knight, S. Leverett, Clinton, Ia.;
Lyford, Geo. H., New York;
Lake, Chas. H., Churchill, Md;
Low, Sidney, Groton;
Maynard, Lambert, Boston;
Merrill, Hayden A., Dedham;
Norwood, Gorham, Gorham, Me.;
Nichols, Albert, Chicago;
Nichols, D. P., Boston;
Ordway, G. W., Manchester;
Oliver, John E., Lynn;
*Parker, James M., Boston;
Putnam, Benj. C., Chelsea;
Pierce, Wm., Charlestown, Mass.;
*Payson, T. E., Providence, R.I.;
Page, Adino, Metamora, Ill.;
*Porter, Wm. F., Cambridge;
Poor, Henry, New York City;
Payson, Samuel F, New York;
Patch, Ash'l H., Clarkville, Tenn.;
Putnam, Wm. R., Red Wing, M.;
Phillips, Samuel, Brighton;
Phillips, A. P., Medfield;
Quimby, T. W., Washington, Mo.;
Rogers, William, Illinois;
Rogers, Benjamin, Malden;
Stone, Edwin M., Providence, R.I;
Snow, Jesse W., Boston;
Sargent, G. P., Philadelphia;
Stanley, Sam'l S., Charlestown;
Shattuck, L. P., Boston;
Spofford, Farnham, Washington;
Titcomb, Chas A., Boston;
Whittemore, Chas. A., Boston;
Ware, Darwin E., Boston;
Whittemore, J. R., Chicopee;
Wheeler, H. T., Worcester;
Webb, Michael, Jr., Cambridge;
Walker, Dexter M., Boston.

Digitized by Google

AMENDMENT TO THE CONSTITUTION.

ADOPTED SEPT. 25th, 1877.

ARTICLE 1ST.—The President, Vice Presidents, and Secretary, of the Society, shall be elected at the annual meeting by ballot.

ARTICLE 2D.—The Trustees shall be elected annually, one for each town in the County, and the Trustee for each town shall be elected by the members of the Society in said town, at a meeting called for that purpose, in accordance with notice issued by the Secretary; and such election shall be final, and shall constitute the Trustee so elected a member of the Board of Trustees of the Society; and the result of the election in each town shall be communicated as early as possible to the Secretary.

Digitized by Google

CONTENTS.

Address of T. C. Thurlow. 3
Cattle Show and Fair. 17
Report on Fat Cattle. 23
Bulls 23
Milch Cows. 24
Herd of Milch Cows. 28
Heifers. 31
Working Oxen and Steers. 32
Town Teams. 33
Steers. 33
Stallions. 35
Brood Mares. 35
Family Horses 36
Farm and Draft Horses. 38
Pairs of Draft Horses. 38
Colts. 39
Swine. 39
Sheep. 40
Poultry 40
Ploughing — Double Teams. 43
Ploughing — Single Teams. 43
Ploughing — with Horses. 44
Ploughing — three or more Horses. 44
Ploughing with Swivel Plough. 46
Agricultural Implements. 47
Carriages. 49
Dairy. 49
Bread and Honey. 52
Pears. 52
Apples 90
Peaches, Grapes and Assorted Fruits. 92
Flowers. 95
Vegetables. 98

Digitized by Google

Report on Counterpanes and Rugs.....100
Articles manufactured from Leather.....100
Manufactures and General Merchandise.....101
Fancy Works and Works of Art.....101
Children's Work.....103
Farms.....103
Grain Crops.....104
Root Crops.....110
New Variety of Winter Apples.....114
Indian Corn.....115
Treadwell Farm.....117
Manures.....117
Essay by James J. H. Gregory.....126
Essays and Reports of Committees.....131
Treasurer's Report.....132
Officers of the Society.....134
New Members.....135
List of Premiums.....136
List of Members.....143
Amendment to the Constitution.....158

Digitized by Google

Digitized by Google

Digitized by Google

TRANSACTIONS

OF THE

Essex Agricultural Society,

IN MASSACHUSETTS.

FOR THE YEAR 1879.

WITH THE

FIFTY-SEVENTH

ANNUAL ADDRESS,

— BY —

HON. GEO. B. LORING,

OF SALEM.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM:

OBSERVER STEAM PRINTING ESTABLISHMENT.

1879.

Digitized by Google

cd 45½ · 74

Digitized by Google

ADDRESS.

Gentlemen of the Society:

I should be doing injustice to my own feelings did I fail to acknowledge the compliment contained in your invitation to address you, now for the third time, at your annual exhibition. The custom which has prevailed here, since the foundation of your society, has confined the choice of the annual speaker to the citizens of Essex county, and has secured for you a series of addresses upon almost every question connected with practical farming as conducted in your own community. The addresses delivered on these occasions, numbering now nearly sixty, contain much of the thought and speculation which have occupied the minds of our farmers during the last half century, and they constitute a body of agricultural literature of the highest value to all who are ready to be guided by suggestions drawn from experiences in conducting the affairs of the farm. To the advice and encouragement to be found in these annual papers I am happy to contribute my share, with diffidence with regard to my own capacity to follow, even with unequal steps, such teachers as Pickering, Newell and Colman of the generation that is gone, and such practical guides as have addressed you in our own day.

I shall not, on this occasion, endeavor to pursue the path which has been laid down by the practical farmers who have

Digitized by Google

preceded me, by entering upon a disquisition upon the best modes of farming; the best crops to raise, and how to raise them; the best cattle to keep, and how to keep them. I think it is well to recognize the fact that the farmers of Essex county know something about their business already, and that the manner in which prosperous agriculture has been thus far conducted by themselves and their fathers indicates a degree of knowledge which is entitled to respect and consideration. I do not recognize the necessity of teaching a farmer who has been successful with his dairy, and has known a good cow from a bad one, the best cattle for his farm. I have no desire to prove to the prosperous growers of vegetables here that they ought to turn their attention to raising corn, in this latitude of short and doubtful seasons; and that they can raise it for thirty cents a bushel, regardless of the value of the land on which it is raised, the cost of manure used in raising, and the expense of the labor employed in managing the land and the crop. I should be very reluctant to impress upon the practical farmers of this county, who have learned by their own experience and that of their fathers, that herdgrass, red-top and clover are the three staple grasses for conversion into hay; the best for feeding; the best for protecting each other; the best for curing into the most nutritious and marketable hay—I should be very reluctant, I say, to impress upon them that they had better abandon these well-known and well-proved varieties, and resort to unknown and untried varieties, not one of which has yet been adopted as a foundation for the hay crop.

I should hesitate about endeavoring to prove to you that a clover crop is a better fertilizer than barnyard manure, on which you have been in the habit of relying. I have no desire to tell the farmers of this county, who have been all their lives

Digitized by Google

engaged in cutting and curing hay, how to harvest this important crop, when I meet, daily, loads of their hay bound to a neighboring market, whose fragrance charms the traveller on our highways, and whose quality stands approved, both by judicious purchasers and hungry animals. Why should I try to teach you the best time to sow grass seed, and to plant potatoes, and sow your grain, and harvest your mangolds and swedes, and the best way to apply manure, when your own experience has taught you all this, long ago? Questions like these I am willing to refer to an intelligent body of farmers, who have generally exercised good judgment in the management of their business; and to realize that they already know that plan of farming best suited to the land they cultivate. I am aware that the farmer cannot afford to devote season after season to trying experiments suggested by some restless theorist, or by some ambitious teacher, who thinks all change is progress, and that no law can be learned by practice, and who feels that he must say something to earn his salary. I am also aware that a well-devised, definite, prosperous plan is of the highest importance to him who proposes to live by tilling the soil; and I have noticed that he who simplifies this plan most readily and pursues it most steadily, undiverted by promises and unconfused by theories, never captivated and misled by the idea that there is a short and easy road to successful farming, more than there is to great learning, is the one who arrives at the prosperity we all desire. I am quite unwilling to discuss practical questions merely for the sake of discussion—knowing well that while I stand still to debate, the weeds will grow apace.

And so referring the anxious student of agriculture to the successful corn-growers, and grass-growers, and grain-growers,

Digitized by Google

and root-growers, and fruit-growers, and dairy-managers, and cattle-feeders, for information upon the various topics in which each one has manifested skill, and warning him that they who talk the most oftentimes produce the least, I leave you to the knowledge which the best of you have acquired by practice, and call your attention to a matter of fundamental importance to you all—a question upon the solution of which in a satisfactory manner depends the very existence of agriculture as an industry to be cherished and developed by a free, enlightened, educated and ambitious people.

We are told that the great mass of mankind live by tilling the soil, in every civilized country on earth; but while this fact is constantly impressed upon our minds, we are not so definitely informed with regard to the manner in which they live, their social condition, their civil relations, their domestic economy. The condition of those employed in manufactures and the mechanic arts varies, we are aware, as the plan in which they are organized in various countries varies—prosperity, thrift, intelligence being secured to some, poverty and ignorance being visited on others. And judging by the various conditions of associated man in the many countries in which society is organized, we can infer that the agricultural population of one country differs from the agricultural population of another, as their domestic conditions, their modes of education, their social and civil obligations differ. The tenant-farmers of Great Britain, the peasantry of Russia, the farmers of Germany, the small land-holders of France, the agricultural citizens of the United States, all represent one industry—and yet how widely they differ in everything which goes to make up man's condition as an intelligent being and as a member of some form of state and society! So true and striking is this that I am

Digitized by Google

sometimes inclined to think that the moral, intellectual and social conditions of the agricultural population of a country is more indicative of its real civilization and of its advancement in all the arts and cultivation of life than are its churches and school-houses—its systems of education and religion.

The great question now occupying the minds of those interested in the welfare of civilized man as a member of society is how can the comfort, prosperity and intelligence of the agricultural population be best subserved and promoted. England discusses the welfare of the tenant-farmer; Russia considers the condition of the recently emancipated serf; France is interested in the prosperity of an unambitious, industrious, frugal body of small land-holders and cultivators. The American goes further, and inquires—How can an American farmer, occupying a farm of usual dimensions here, discharge his duty to the State as a voter and tax-payer, and gratify his desires with regard to the education of his family, the comfort and culture of his home, and the informing of his own mind and the gratification of his tastes, from the income which he can derive from the cultivation of the land? And this is the American problem of to-day.

That the prosperity of agriculture has kept pace with the increasing prosperity of every other industry in our land is manifest. The activity of the grain-growing sections of our country has been great for more reasons than one; and the demand for the products of the pasture and the stall has been most encouraging to those who supply the provision market at home and abroad. It may be that this encouragement of local and special crops has not been as great, and that the farmer is called upon to consider how he can secure a suitable reward for the labor which he applies to the careful and system-

Digitized by Google

atic tillage of the soil to supply local markets with what they require, and for the care which he bestows on the orchard and dairy. And yet I think personal effort is well rewarded, and that the small farmer in favored localities will find, even from slow and reduced markets, a compensation nearly as great as he obtained when his personal expenses were greater, and the wages of labor much larger than they now are. I am aware that great discouragement has fallen upon this class of farmers in whose hands rests that system of agriculture which must prevail as our country increases in population. And yet, the condition of the farmer here is looked upon as so satisfactory in every point of view, that the lesson taught by us is engaging the minds of some of the most thoughtful statesmen and publicists of the Old World. It has been discovered that the American system of land-holding, for instance, is the foundation of great popular content, and accompanied as it is by great social and civil opportunities, surrounded as it is by the free institutions of our land, attended as it is by the school-house and the meeting-house, and by the constant call to public service, which leaves but few exempt among us, it constitutes the foundation on which rest great mental activity, great dignity of character, great enterprise and ambition. To the practical work of the agricultural community here, wide-spread disaster, moreover, is almost unknown. The local damage of a drouth or a flood is not, indeed, unusual, but the extent of our territory is such, the diversities of our soil and climate are so great, the disasters seem to be circumscribed and accidental, while the prosperity is wide-spread and constant. With landed possessions which are obliged to bear the burdens of heavy taxation, with the wages of labor vastly greater than in any of the countries of Europe, with the personal requirements of the

Digitized by Google

farmer and his family increased by social obligations and the natural demands of a free and responsible people, we have been able to compete in the grain market of the world with those who, in some instances, are furnished with land free of rent and taxation, and whose necessities of life are so small, and whose duties are so low, that the former seem intolerable and the latter seem insignificant and trivial. The skill of the American farmer, supplied as he is, with the most ingenious and graceful and effective machinery, has become an object of admiration and imitation. The well-organized home of the American farmer is looked upon as a model. The place filled in the community by the American farmer is considered so important and honorable that other nations inquire how it has been attained. The crops of the American farmer are looked upon as so sure that all anxiety with regard to the supply of food for people less favored has passed away. Besides feeding nearly fifty millions of people, the agriculture of our country has supplied our commerce with a large proportion of our exports to foreign countries. Of the aggregate amount of our exports for eleven months, ending May 31, 1879, valued at $635,042,078—the agricultural industry furnished about $532,813,179. The value of the cattle exported during that period was $2,897,846; of corn, $43,610,441; of wheat, $90,700,598; of flour, $23,000,854; of cotton, $173,629,022; of beef, $7,120,000; of cheese, $11,737,928; of lard, $28,068,490; of pork, $4,620,000; of grass seed, $2,000,000; of tobacco, $23,440,000.

The effect of this contribution to our export trade is incalculable; and it has done so much toward restoring us to that financial stability and prosperity and honor of which as a people we ought to be proud, and for which every prosperous

Digitized by Google

man ought to be grateful, that I turn with individual pride and satisfaction to the record which American agriculture has made for itself during the last year. This unusual and extraordinary prosperity is due undoubtedly to many causes, both natural and artificial; the natural causes being our diversity of soil and climate, the variety of our crops, and the economy with which new and fertile lands can be cultivated; the artificial causes being the advantages of local and general markets, and the relations established between the farmer and the soil he cultivates by the independent ownership of land under the laws of our country. To this last cause I attribute much of that elasticity and energy which the American farmers manifest in occupying new lands, and in the cultivation of crops adapted to the markets they can reach. It was not easy to tell the strength and stimulus which come through the ownership of the soil to him who occupies it, has fixed his home upon it, and looks to it for his means of subsistence. It is to the division and subdivision of the land, almost as much as to their devotion to the institutions of learning and religion, and their determination to secure all social and civil rights, that our fathers owe their success in establishing free government on this continent. They had the Anglo-Saxon love of land, but above all this they had the Anglo-Saxon love of individual independence; and landed monopolies, entail and primogeniture were especially odious to them. They established, in the earliest colonial days, a system of landholding so simple, so exact, so easily managed that it has become the example which all republican governments follow. They established a public registry of deeds, and provided for an easy and recorded transfer of landed estates from hand to hand, as easy as the transfer of personal property. The state

Digitized by Google

which they founded became not only the home of civil and religious freedom, but of small-landed proprietors also. When they struck for freedom, they struck for the sacred rights of their own homes, which had become scattered throughout the length and breadth of the land, and were the nurseries of a hardy, independent, sturdy race of Puritans in religion and Round-heads in politics. They were indeed the lords of the soil, and were as unconquerable in their defense of their little farms as the great landed proprietors of their old home were in protecting their immense estates from invasion or popular revolution. The feudal tenure of England really never gained a foot-hold here. But the commercial tenure which took its place gave every prosperous member of the community an opportunity to establish his own little kingdom, and to dispose of or exchange it at his pleasure. The temptation to secure land under these circumstances became irresistible. The mechanic labored to secure his homestead—the merchant was never satisfied until he had purchased a farm with the surplus profits of his commercial adventure. The professional men of the day—the lawyer, the clergyman, the physician—all owned and cultivated their land, which they were proud to occupy. And with this American system, as it has been called, went a multitude of civil rights and privileges and opportunities which were never lost sight of by those who made up and supported and organized the community. The occupants and owners of these farms were the pillars of the church; they filled the town offices; they took their places in the legislature and made laws for the Commonwealth; they took part in the town meeting with its stormy debate and its free ballot; they aspired to high office and exercised the right of beating and being beaten at the polls. The school-house, the library, the

Digitized by Google

lecture-room, they erected for their mental culture, the church for their moral and religious elevation. They founded a system of state and society here which required of them and requires of us, also, a liberal expenditure both for public and private necessities and luxuries. In a community founded as they founded theirs, taxes must necessarily be somewhat heavy; personal expenses must be somewhat large; the adornments of home must be provided for; the public entertainments will be enjoyed; the children must be well clad, provided with books, and supplied with a good education. And this is the American system of land-holding, with all its duties, privileges and opportunities—a system which the statesmen of the Old World study with profound interest and great care. It may be attended by a great deal of careless and unprofitable and unskilful farming, as every other system is, but it produces great results, and is the foundation of great public and private prosperity.

Our attention is often called to an analogous system of land-holding established in France by the Code Napoleon more than three-quarters of a century ago. But engrafted as this system has been on a people unused to it and ignorant of its effect upon the political economy of the State, it has not secured those popular advantages which, in our own country, led the eminent French philosopher, De Tocqueville, to attribute to it the stability and vital force of our institutions—a lesson learned here and not in France. In accurate and economical farming we may perhaps learn a lesson from France. In her area of 207,480 square miles, not larger than the largest State in the Union, her wheat crop is equal to our own. Her production of local and staple crops is enormous. Her cattle and horses almost reach our number, and her sheep

Digitized by Google

outnumber ours. With a thrifty population, among whom wealth is quite generally diffused, her resources in war and in peace are unbounded; and her national vitality is the admiration of the civilized world.

That much of this agricultural prosperity is due to the fact that the people devote their energies to the cultivation of small farms there can be no doubt. But it should be remembered that the state of society which goes with this system in France differs so entirely from our own that she furnishes no such example of popular intelligenee and personal independence as is found in the United States. There the home known to the American farmer is not found. The American farm-house is almost unknown. The peasantry gather for the night into crowded towns away from their lands, and go forth by day to till their few outlying acres. The demands of the state upon them are not large. They are seldom overtaxed except in time of war. They are tempted by none of the honors and emoluments of public service. They aspire to no civil distinction, and even while organized as a republic, they are warmed into no personal ambition, and as a social organization furnish no example which their own philosopher and publicist could commend as a guide to the civilized world. It is true they are citizens of a republic and are owners of the soil on which they live; but it is a republic without the tradition of freedom, a soil divided among them by violence before they had reached the point of citizenship. And I think the most that can be said of their civil organization is, that their approach to republican government has been largely through their system of land-holding—more largely than through any lesson taught them by their social and political reformers.

But it is in England that this question of land-holding is

Digitized by Google

most earnestly and carefully discussed at the present day, and it is there that its solution involves the most momentous consequences. The feudal tenure still prevails so generally in the United Kingdom that the integrity of the government seems to depend largely upon its preservation. The inheritance of large landed estates, the protection of those estates by entail and primogeniture, their preservation by every support which the law can throw about them, are all objects which the Englishman has deeply at heart—feeling as he does that upon the power of a nobility based upon such possessions depend the safety and power of the throne. Great as her commerce and manufactures are, and powerful, she knows that the tie which binds those engaged in these great industries to the government which protects them is but feeble when compared with the devotion of a great class who cling to their lands and their homesteads, and enjoy the sense of superiority which fills the breast of him who, under the constitution and the laws, is counted one of the lords of the soil. It is upon land-holding of this description that the liberals of England now make war —upon a system which, to their minds, stands opposed to every popular right and privilege for which they contend.

More than ten years ago, John Bright predicted to an audience in Manchester that the time was rapidly coming when the "American system of land-holding" would be adopted by a reformed British government. Mr. Gladstone presented this system to the minds of the Irish people as the next step in his endeavor to regenerate that island, after the disestablishment of the English church there. The clamor of the most violent and radical of the liberal leaders has been for reform in the direction of a proper distribution of the land among the people. In parliament, at the hustings, at agricultural meetings

Digitized by Google

like this which we are holding here, the debate is going on, and the question may be said to be the one which divides the popular mind more distinctly than all others, and more constantly occupies the thoughts of the leaders of public thought and the guides of public affairs.

In reply to the opinions expressed by Mr. Gladstone and his associates, Lord Derby long ago attempted to show by figures that the distribution of land among the people of the United Kingdom was as liberal as that to be found anywhere on the face of the earth. More recently, however, Lord Hartington has taken up the question, and has most earnestly pointed out the dangers which lie in the way of continuing a system which, according to him, "exists in no other country in the world." As the leader of the opposition in the House of Commons, and as one who "not only from his character and high position," but "from the social post which he occupies as the eldest son of one of the great proprietors of the soil," "must necessarily exercise a great influence over public opinion," his views are looked upon as of the highest importance. It is charged upon him that, in a very remarkable speech recently delivered, he has "prepared the country for the belief that the system of English agriculture is not formed on what he calls a natural principle, but supporting three classes of the community, is one which has failed in consequence, and will never be restored;" these three classes being, first, the proprietors of the soil; second, the farmers, an important portion of the great middle class; and third, the agricultural peasant.

In replying to this extraordinary statement, Lord Beaconsfield declares that there is no tenure of land which can be devised except on the condition of farnishing three incomes. Compared to "peasant proprietorship," which means small

Digitized by Google

land-holding in the mind of the Premier, the tenant farming of England seemed, to him, to be eminently successful. The peasant proprietor buys his farm with his hoarded and invested wages, or with borrowed money, on which the interest must be paid; and that is the first income. The erection of the necessary buildings, the supplying of tools and implements, and the stocking of the farm, must all be paid for from the earnings; and that is the second income. He must be clothed and fed from the receipts of the farm, which, together with the support of his family, employed with him, constitutes the wages of the farm; and that is the third income. Under peasant proprietorship these three incomes go to one class; under tenant farming they go to the three classes already designated. "The number and variety of the classes in England," he adds, "dependent upon the land, is the source of our strength. They have given us those proprietors of the soil who have been the creators of our liberty, in a great degree, and the best securities for local government. They have given us the farmers—the most important portion of the great middle class—and they have given us, lastly, the agricultural peasant, whose lot is deplored by those who are not acquainted with it, but who have, to my mind, during the last forty years, made more continuous progress than any class in Her Majesty's dominions."

The assumption of Lord Beaconsfield that it is better policy for a farm to support three classes in the community rather than one simply indicates his recognition of class as a political necessity, and his entire ignorance of the independence of him who, owning and cultivating his own land in this country, not as a peasant, but as a citizen, combines three classes in one, and represents what an American points to with so much pride

Digitized by Google

as the citizen-proprietorship of his own country. In well-organized society, as we understand it, there is no necessity for three classes; for the citizen who owns his land here, constituting himself this trinity of society which the Premier admires so much, being literally the "three in one," supplies all those forces to the State, the love of liberty, the love of the land, the love of progress, which are supplied Great Britain by the proprietors, the farmers and the peasants acting in separate capacities. Instead, however, of realizing the possibility of such proprietorship as this, and finding in it a remedy for the evils he had depicted, Lord Harrington takes an early occasion to state that he has no desire to alter the land laws, "for the purpose of encouraging the growth of a peasant proprietorship." "There were many persons," he said, "on all sides of politics, who thought that a considerable number of small proprietors would be a great advantage; but with the imperfect consideration which he had been able to give to the subject, he had never laid down the doctrine that the existing tenure of land in this country (England) should be altered, or that anything should be done to encourage any other tenure." And so the discussion ended, and large proprietorship and tenant-farming still remain.

The result, however, of the inquiry and the almost universally recognized fact that the agricultural interests of England are suffering, and that both proprietor and tenant fail to receive their reward, one for his capital, and the other for his labor, have brought about the appointment of a commission who are now inquiring into the sources of agricultural wealth here; the method by which agricultural products can be raised and exported profitably to the English market, and, I trust, into the tenure of land, which constitutes our citizen-proprietorship.

Digitized by Google

I doubt not they will discover in the cheap and luxuriant grazing lands of Texas, the source of our profitable production of beef, and in the fertile valleys of Illinois and Iowa and Indiana, the profitable grain fields from which our own people and theirs are fed. But I would have them study also our tenure of land, and learn the "great advantage" of a "considerable number of small proprietors" over that system of land-holding which in their own country is generally declared to be a failure. This system I have already described, and I repeat that it should be called among the various systems now recognized and discussed, the *citizen-proprietorship* of the soil.

The question of the capacity of this system to support a great moral population on American soil is the *American Problem*, to which I have already referred. That it encourages and fosters a spirit of freedom, and is managed by an intelligent and ambitious body of citizens, and is promotive of social and domestic peace and happiness, two centuries and a half of colonial and national life have satisfactorily demonstrated. That it supported an industrious and hardy and educated people in the early days of our republic, before other industries had been established here, is well known. The question now is—Will it continue to prosper under the increased demands of our own day, and enable the land-owner and cultivator to meet the demands made on him by the public and private wants incident to American civilization? Tenant-farming in England has failed, the peasant proprietorship of France offers no temptations to us; will our own system continue to prosper, and amidst all obstacles be accepted as the successful agricultural system of the world—a system supporting not a peasantry but a body of citizens enjoying all the rights and privileges which free citizenship can bestow? I am aware of the discouragement

Digitized by Google

under which our agricultural population is now laboring—dull local markets, small profits and heavy expenses. But I cannot forget what industry and economy accomplished for our ancestors, who first occupied the soil, and I see no reason to doubt that as it was with them, so it will be with us continually. That an ingenious application of labor to a small homestead will meet with an ample reward, I cannot doubt. The exercise of those virtues and faculties which give success in other branches of business must inevitably succeed in this.

A life thus profitably occupied means a life of frugality, foresight, prudence, industry and the most careful calculation. It furnishes no opportunity for the joy of successful or the despair of unsuccessful speculation. But it does provide a sphere in which self-control may lay the foundation of a contented and happy home, and a life of usefulness and happiness and prosperity. I am the more encouraged to state this from the fact that those who make this the land of their adoption are eager to possess the abandoned farms of our own people, and find in them all the prosperity and comfort they desire. I know many an out-lying and idle farm from which a fair fortune was reaped in a former generation, and from which a crop of strong, capable and useful men has been sent forth to take part in the business of the world. Is this thing impossible now? The methods may have changed; the advantageous localities may have changed; the markets may have changed; the economies of the business may have changed; but the opportunities for success have not changed. I am entirely unwilling to believe that a farm properly selected and arranged with reference to soil and markets may not remunerate the cultivator now, as it did formerly. And I urge upon all individuals and associations into whose hands are committed the

Digitized by Google

theory and practice of agriculture in this country to encourage that agricultural management which will remove the question of our system of land-holding and farming beyond a doubt, and place it firmly among the prosperous industries of the world, and recognized as such by all men.

And now, gentlemen, the existence of this society, whose honorable career of more than half a centnry is known and recognized of all men here, indicates the desire of the farmers of this county for investigation, comparison, education in all the important branches of agriculture. That the desire was created by the necessity, I cannot for a moment doubt. The simple and easy farming of the fathers prospered under the exercise of industry, economy, good judgment, and common sense. But it is not so now. With these facilities the successful farmer can hardly expect to succeed to the full measure of success unless guided by the best rules laid down by those who have endeavored to apply the results of careful scientific investigation to their work. It is economy that succeeds now; the economical use of labor, of all the forces used on the farm; the economical use of manure and all fertilizers; the economical feeding of animals; the economical management of the domestic affairs of the farm.

Carelessness and extravagance cannot succeed. The unsystematic farmer may live, but he cannot thrive. But he, who with an enlightened mind lays down a definite plan of industry, and follows it, will never be betrayed by that calling which has always responded and will always respond to the earnest endeavor of those who pursue it with wisdom and devotion. We may be inclined to question the value of many of the modes of agricultural education which have been adopted in our day, but let no man, who has the welfare of the country at

Digitized by Google

heart, discourage the attempts which are made to cultivate and inform the minds of those who hold in their hands the most important of all our industries. The agricultural society may not display always an encouraging record of crops or the applied labor of a farm, but it will inevitably rouse a spirit of emulation and excite ambition, and set an example which will be felt in the community. The farmers' club may arrive at no conclusion, may begin a season with discussion, and decide no question under debate; but it will drop a hint or present an experiment which being accepted by some bright and thoughtful member, will lead to a long experience of successful farming. The agricultural college may not send a class of practical farmers into the community and upon the land each year, but it will educate some keen and capable and observing youth, who will enter the field of farming and so cultivate it that the community will learn to have confidence in his work, and will discover many a useful rule written down on his well-tilled and well-managed acres. As the wants and demands of American society increase, it will be found that the American system of land-holding requires that the American system of education be carried into this occupation as well as into all others. And it will also be found, I think, that they who have succeeded best in arranging and tilling their farms, and supplying a market, have instinctively adopted rules of husbandry which education offers to all who ask them of her. I urge, therefore, upon you a constant spirit of inquiry, a profound respect for every form of agricultural education, remembering that the knowledge which you possess was wrought out for you by your fathers, and that a still more accurate knowledge is the best legacy you can transmit to those who succeed you as the citizen-proprietors of the American soil.

Digitized by Google

Sung by the Lynn Choral Union at the Central Congregational Church, on the occasion of the annual address before the Society.

HYMN.

BY JOSEPH W. NYE, OF LYNN.

The generations come and go,
As Time's resistless tide doth flow,
The changing Seasons reappear
In turn, to form the circling year.

Again from Earth's exhaustless stores
A varied bounty Autumn pours ;
What Spring and Summer nursed with care,
She crowns with ripeness full and fair.

The noblest from the stall to-day,
Before us stand in fair array ;
From flocks and herds the choicest come,
To celebrate this "harvest home."

Here Flora finds a welcome place,
Adorning it with winning grace ;
With tributes chosen, tree and vine,
To aid the Jubilee combine !

Amid the treasures gathered here,
We sing the triumph of the Year,—
The highest strains our tongues employ
To sound the universal joy !

Let gratitude the heart inspire
To see fulfilled the fond desire,
And hope that what in faith we sow,
Will unto full fruition grow.

Thou God of harvests ! unto Thee
Shall all the praise and glory be ;
Man's toil would be in vain, and cease
Didst Thou not give the blest increase !

Digitized by Google

CATTLE SHOW AND FAIR.

The Show was held at Lynn, Sept. 30th and Oct. 1st, 1879. The attendance was very large. The exhibition of Stock, Ploughing Match, &c., was held on Fairchild's field, Boston street; that of Fruit, Domestic Manufactures, &c., at Music Hall Building, Central avenue.

The entries in the Stock department were as follows :—

Fat Cattle	3	Entries.
Bulls	9	"
Milch Cows	34	"
Heifers	27	"
Working Oxen	12	"
Steers	4	"
Town Team of Eight Horses,	1	"
Stallions	8	"
Brood Mares	7	"
Family Horses	7	"
Farm and Draft Horses	9	"
Pairs of Draft Horses	5	"
Colts	14	"
Swine	10	"
Sheep	18	"
Coops of Poultry	27	"
Ploughing Teams	21	"

There were also a large number of entries of Agricultural Implements and Machines, and Carriages.

The exhibition in the Hall, of Fruits, Flowers and Vegetables has never been surpassed at any of our Exhibitions, and the number of visitors to this department was very large.

CHAS. P. PRESTON, *Secretary.*

Digitized by Google

REPORTS OF COMMITTEES, &c.

FAT CATTLE.

We, the Committee on Fat Cattle, have attended to our duty and have awarded, to the best of our judgment, first premium of $12.00 to Mr. Amos C. Hathaway of Marblehead; second, $10.00, to Mr. Henry Gardner of Peabody; and third, to Town of Peabody, $6.00.

J. B. Thomas, A. T. Newhall, Joseph C. Shepherd, T. W. Hasseltine—*Committee.*

BULLS.

The Committee award the first premium of $10, for the best Ayrshire Bull under two years of age, to S. F. Newman, of Newbury.

Second premium of $6, for a Jersey Bull under two years old to Francis H. Appleton of Peabody.

Second premium of $6, for an Ayrshire Bull, two years and upwards, to J. W. Blodgett, of Saugus.

J. P. Palmer, Swampscott, Jersey, gratuity $5.

The number of Bulls on exhibition was very small (about half a dozen), and of these none of very decided merit. Whether the reason of the meagre show of Bulls was the location of exhibition in the extreme edge of the County, or the amount of the premiums offered, is more than we can tell. But this your Committee know, there are some splendid animals in the northern part of the County that did not appear at the exhibition.

The importance of using bulls of decided merit is not fully

Digitized by Google

appreciated by many farmers, which seems strange, when the impovement of our "Beef and Dairy Stock" is of so much importance, and the character of our stock is so quickly changed for the better. Witness, as an example, the difference between the Texan steer of to-day and the same even ten years ago, brought about by the use of fine Durham Bulls from Kentucky and other parts of the West. Results quite as favorable have been produced upon the dairy stock by the use of the full blood Bulls imported from the best milking stock of Europe.

It is not necessary to refer one to the Texan cattle alone, who remembers the old fashioned ox of New England with his big head and horns, sharp back, heavy forward and light hind quarters, rump and sirloin nearly half bone, and timber enough in his legs for two. These have almost entirely disappeared, and a still greater improvement will be called for in the immediate future by the demand for the best animals in the market to feed the epicure on the other side of the Atlantic.

Respectfully submitted,

J. Z. Gordon, Eldred S. Parker, T. G. Ordway.—*Committee.*

STATEMENT OF FRANCIS H. APPLETON.

BROADFIELDS FARM, PEABODY,
Sept. 30, 1879.

To the Committee on Bulls of the Essex Agricultural Society :—

SIRS :—I enter with you my Pure Blood Jersey Bull, "Suntaug," and have attached his pedigree to his pen. He was dropped May 29, 1878, and was bred by me, and I therefore enter him for the Jersey premium for bulls under two years old.

I also give you his pedigree below, all numbers there referring to the American Jersey Cattle Club Herd Register, published by Colonel Geo. E. Waring, Jr., of Newport, R. I.

His Dam, "Lady Essex," 4749, owned by me, in 1877 gave, from 5 13-100 quarts of milk, 1 lb. fresh butter.

Digitized by Google

BULL SUNTAUG—bred and owned by Francis H. Appleton, Peabody, Essex Co., Mass.

Sire Champion, 1109, owned by H. Saltonstall, Esq.; Dam Lady Essex, 4749, owned by F. H. Appleton.

Sire of Champion—Monarch of Roxbury, 499; Dam of Champion—Jennie Porter, 470.

Sire of Monarch of Roxbury—John C. Bas, 398; Dam of Monarch of Roxbury—Nellie, 289; both imported in 1868 by Mr. T Motley.

Sire of Jennie Porter—Cour de Lion, 318; Dam of Jennie Porter—Jennie May, 473; both imported in 1866 by Mr. T. Motley.

Sire of Lady Essex—Magnet, 968; Dam of Lady Essex—Magnolia, 2543, imported by Mr. Motley in 1869.

Sire of Magnet—Mr. Micawber, 556; Dam of Magnet—Mabel, 2544; both imported by Mr. Motley.

I hereby certify that the above is correct.

FRANCIS H. APPLETON.

MILCH COWS.

Your Committee submit the following report:—

Number of entries, ten. For the best Milch Cow, either of Foreign, Native or Grade, not less than 4 nor more than 10 years old, with satisfactory evidence as to quantity and quality of milk, either by weight or measure, during the evening and morning of the first and last ten days of any month.

1st premium $12, to John S. Ives, Salem, for Grade Ayrshire Cow.

2d premium $6, to A. P. & R. Alley, Marblehead, for Grade Ayrshire and Short Horn cow.

Native or Grade, 5 years old and upward—1st premium of $12 to G. C. Noyes, Lynn, for Grade Ayrshire and Durham.

For the cow that makes the most butter in any single week from June 1st to Sept. 15th—1st premium of $12 to

Digitized by Google

Geo. K. Pevear, Lynn, for Jersey cow, May Flower; 2d premium $6, to Chas. J. Peabody, Topsfield, for Grade Jersey cow, Pet.

No premiums were given to Thorough-Breds, as no cows were entered whose pedigrees filled the definition of Pure Bred animals as laid down by the State Board of Agriculture. See page 7, General Rules of our Society.

The cow entered by Mr. Noyes was considered a remarkably fine specimen of a Milch cow, with great udder capacity. She is 7-8 Ayrshire and has all the characteristics of a Thoroughbred. The statement that she had not been dry for a number of years seemed somewhat extraordinary; but she was evidently a cow of great possibilities.

May Flower's yield of butter seems a very good one—240 lbs. or 113 qts. of milk, producing 11.5 lbs. butter, 1.64 lbs. butter per day—9.9 qts. milk to a lb. of butter. Pet gave a pound of butter per day, but we have no data as to the quantity of milk. The former calved in March, and the test for butter was made in May. The latter calved in June and the test was made in September. The last of May, on fresh grass, would be considered the better season for producing butter. The yields of both cows under the circumstances are, without doubt, above the average.

"Whatever we may think of our ancient ruler, King Cotton, there is no question as to the allegiance we owe to Queen Cow. Every one of ouragricultural products, with the single exception of Indian corn, is surpassed in value by our dairy yield. The value of the cows and of the land especially devoted to their support, is reckoned at $1,300,000,000. The annual production of cheese is estimated at 350,000,000 lbs. and that of butter at 1,500,000,000 lbs. Their combined value, estimated at $350,000,000, is only one-fifth less than that of the corn crop. The production has increased thirty-three per cent. within the past year, and since the introduction of the American factory system in the manufacture of them, they have become important objects of export, the foreign sales

Digitized by Google

amounting, during the last season, to $18,000,000 for butter and $14,000,000 for cheese. The exportations this year have paid more than $1,000,000 freight, or enough to support a weekly line of steamers to Europe. They have paid $5,000,000 freight to the railroads of the country, and milk pays nearly as much more."*

We do not know where to find a more comprehensive though concise, statement of the importance and value of the Milch cow in the United States than in the above.

We say in the aggregate Queen Cow, and the title is well deserved, but no cow is worthy of belonging to the royal family who does not yield at least 2000 qts. of milk in a year. If this were only true of all, the above figures would be largely increased.

What we wish to show is that, at present prices, it does not pay to keep a cow that gives less milk than the quantity mentioned, and we believe with the present abundance of improved breeds of cattle there is no excuse for keeping a poor animal. Many thorough-breds can be now purchased at prices very little above that of common stock, so that the cost should not stand in the way of any one really wishing to improve his herd. To show the absolute need of improvement, we would state that according to statistics prepared a few years ago, the average in N. Y. dairies was 1300 qts. per cow, and in the *best* dairies only 1800 qts. 2000 qts. is a fair yield; but is it sufficient at present prices to leave any profit after the keep, &c., has been deducted?

The farmer who sells his milk at the door or delivers it to the contractor on the cars gets from 2 to 3 cts. per quart. Will a cow, yielding 2000 qts. per year, pay for her keep at these prices? We think not. This brings us to the cost of keeping a cow:—Reckoning 7 months at $6 and 5 months at $3 for feed—a low estimate where milk is the object,—we have $57 for the year. 1000 qts. at 2½ cts. and 1000 qts. at 3 cts.

*The Nation, Dec. 19, 1878.

Digitized by Google

equal to $55; there is no profit. Consequently it is evident that the quantity of milk must be increased or the price must be raised to leave any margin or profit. If you increase the yield to 2500 qts. per year its value will be $68.75, a profit of $11.75. Unless the farmer has the means of sending his milk direct to market, we imagine he will find it easier to increase the yield than to advance the price.

Butter.—Would there be more money in making butter or cheese than in selling milk at these prices? Let us see. 2000 qts., allowing 12 qts. to the pound, would produce say 167 lbs. of butter, which at 30 cts. would come to $50.10; deducting 5 cts. per lb. for making and marketing leaves $41.75, the butter and skim milk; the latter are valuable if fed on the farm, and tend to prevent exhaustion of soil.

Cheese.—2000 qts. of milk, allowing 4½ qts. to the pound, would produce 444 lbs. of cheese, which at 10 cents per pound, would be $44.40, less cost of making, &c., 2½ cents per pound, leaves only $33.30 and the whey. If the above figures are correct, they would seem to prove conclusively that milk at even 2½ cents per quart for the whole year would give the producer more money than either butter or cheese. We are aware that many dairies receive more than 30 cents per pound for butter, but we also know that many more receive less.

While every effort should be made to increase the yield of the herd, there is a way by adopting which, the price of milk could be legitimately raised to the great benefit of all concerned, that is, the bringing of the producer into direct communication with the consumer. How can this be brought about? In two ways, namely: either individually to send the milk direct to market, or enter into an agreement with other parties with similar interests, and accomplish the same object by united efforts.

The first method has the merit of independence and can, perhaps, be managed as economically as the last, where large quantities of milk can be made on a farm. The last method is especially adapted to farmers keeping fewer cows who thus,

Digitized by Google

by united action, are able to stand on the same level as the larger farmers. In this way co-operation would give an opportunity of selling milk which otherwise would be beyond the reach of many. Co-operative milk selling is not a new thing. The Aylesbury Milk Co. of England, and the Rockland Milk Co. of New York, are good examples of what may be accomplished.

"It is only by a union of interests and action that the producers of milk can expect to become successful milk sellers. Already we hear of individual effort acting with insufficient information, and really in competition with those who are working under a similar line of policy. It would seem more business-like for such producers as wish to sell their milk direct to city consumers, to join some efficient organization and pull together. In this connection we learn that the United Society of Milk Sellers, with C. W. Felt of Northboro as manager, is now fairly in operation, and with prospect of a large business. The aim of this society is to sell milk direct from producer to consumer, and to reduce the cost of transportation."*

At Quakertown, Bucks Co., Pa., the dairymen lately became so disgusted with the price of milk sent to milkmen in Philadelphia—it having fallen to two cents per quart, delivered—that they met and formed a Dairy Association, with a capital of $4000, and built a creamery of the most approved form. We do not at this time propose to enter into a discussion of the merits of co-operative cheese and butter making, which has resulted in the establishment of a large number of factories all over the country, and has added so much to the wealth of the farming community, but shall confine our attention more particularly to the milk question.

A law passed by our last Legislature provides that all railroad corporations shall furnish the same facilities to a farmer wishing to send one can of milk as to persons sending larger quantities; so that at the present time the producer is not at

*American Cultivator, Aug. 30, 1879.

Digitized by Google

the mercy of the contractor to take whatsoever price may be offered, if he will only put himself in direct communication with the consumer and take the responsibility of sending his own milk to market.

The economy of cooperation commends itself. One man, one horse, and one wagon may take the milk of a dozen, or perhaps of a less number of producers to the railroad depot, or deliver it when possible, directly at the doors of consumers. The outlay of capital is thus borne by all interested in the undertaking, and not by one individual.

"If farmers understood the business details of their industry, if they had sufficient business discipline to confer with each other, and carefully determine, on commercial principles, what they ought to charge for their products,—having formed such cooperative associations as could execute their united will—they could then fix the prices of all their commodities, and hold them as steadily as they are now held after they get into the hands of commercial dealers. But the difficulty is, that farmers associate so little with each other, have never entered into any rational cooperation, but rather considered each other as competitors to be out-manœuvered in trade." . . . "If they understood the situation, they would see that the real interests of farmers are mutual and reciprocal—that there can be no natural antagonism between them."

"Until they are educated in common business principles, and can see the identity and mutuality of their interests, and form associations to direct in the disposal of their great staple crops, their interests will be traded upon without consulting them by the whole middle-men class.

"We do not condemn the middle-men. They merely act for themselves—buy the best they can, and sell the same. They form commercial alliances and boards of trade, and strengthen themselves in the most sensible way, although there is not the necessity for it as with farmers. But farmers passively submit to their decision—submit to the inevitable. And this must continue, there is no help for it, till farmers shall

Digitized by Google

think and act for themselves: and this requires so radical a change in this great body of society, that its accomplishment must be of slow growth.

"It is because these milk dairymen, who, producing the milk, may regulate its sale, on the principle of supply and demand, do not form associations for that purpose, that these 'few milk dealers' are kind enough to fix the price for them. They merely perform a duty that the milk dairymen omit! This is just like the self-sacrificing spirit of the middle-men everywhere. They are always spending their time in fixing the prices for the farmers: and yet the farmers do not seem to appreciate it."*

A very recent effort "for giving people good milk and farmers a fair profit," reported in the New York World, seems worthy of notice, as showing the tendency towards co-operation.

At a meeting of the Bedford Farmers' Club, at the residence of Mr. John Jay, near Katonah, Westchester Co., the following resolutions were adopted:—

1. That a committee of three be appointed to consider the feasibility of co-operation by the farmers of the vicinity, for the direct delivery, under their own direction, of milk and other farm products, to the consumers in New York, particularly as regards milk, the prices paid by the consumer and that received by the farmer. And the committee be requested to report their opinion on the tendency of such direct delivery, to economize expense, to harmonize the interests of the producer and consumer, to enlarge the share of profit coming to the farmer and the certainty of its returns, and as regards the consumer, on its tendency to afford additional security against adulteration, short measure and misrepresentation of any kind touching the character and value of the article.

2. That the said Committee, if persuaded of the feasibility of such an arrangement, be requested to report fully their views and to submit a plan for putting the scheme into operation, with provision for securing in all cases a proper standard

* National Live Stock Journal.

Digitized by Google

of excellence for maintaining alike the reputation of the farmers and the confidence of the public.

In offering the resolutions, Mr. Jay said that co-operation had received great attention in Germany and England, and has been considered in this country by all business men excepting farmers. Other business men have tried to protect their rights and enlarge their interests, while the farmers, who are the chief national strength, have stayed in a condition of feeble independence, without protecting themselves against railroads and partial legislation.

The report of the above mentioned committee will be anxiously awaited by all interested in the milk business.

Is it necessary for the farmers of Essex county to delay any longer in taking steps for the accomplishment of that which must evidently be for their mutual benefit? We think not.

Two profits can no longer be derived from the milk business, therefore the middle-men should give place to the farmer, who should demand and take the whole profit, for he deserves and needs it.

The time for action has arrived, when all good-intending milk producers, especially in the neighborhood of large towns or cities, should organize and "pull together," either for co-operative milk selling, or to fix a scale of prices, and provide means to prosecute the adulterators of that health-giving lacteal fluid so bountifully yielded by "Queen Cow."

J. D. W. FRENCH, *Chairman.*

STATEMENT OF JOHN S. IVES.

SALEM, Sept. 30, 1879.

I enter for the consideration of your Committee my Grade Milch Cow, 8 years old. She dropped her last calf April 2, 1879, and will calve again Feb. 10th, being nearly five months with calf. From June 1st to June 10th, (10 days) she milked 207 quarts, or 20 2-3 quarts per day; from Sept. 15th to Sept. 25th (10 days), this month, she milked 110 quarts, or 11 quarts per day. She was fed last winter with corn fodder and

Digitized by Google

Hungarian Hay, with two buckets of Mangel Wurtzels per day; "no grain." This summer she has run in a common pasture with fifteen cows, and at night fed with corn fodder.

STATEMENT OF A. P. & R. ALLEY.

To the Committee on Milch Cows:—

We enter for premium our milch cow Mary, of Ayrshire and Short Horn blood, eleven years old; calved March 27, 1878; began measuring her milk April 1.

Record of her milk.

April,	527	quarts.
May,	536	"
June,	657	"
July,	618	"
August,	569	"
September,	523	"
October,	432	"
November,	329	"
December,	272	"
January,	203	"
	4666	"

Her feed for April and May was two bushels of carrots and mangolds mixed, and plenty of good hay.

From June 1 to July 25, pasture and three quarts meal and three quarts of shorts a day.

From July 25 to Oct. 1, two bushels of small potatoes a day and pasture.

From October to middle of November, two bushels of squash a day and pasture.

From middle of November to end of year, two bushels turnips, English hay and rowen.

STATEMENT OF G. C. NOYES.

One Grade Ayrshire Cow, eight years old, her Dam 3-4 Ayr-

Digitized by Google

shire 1-4 Durham, sired by an Ayrshire Bull. She now gives twenty-two quarts of milk per day. Least milk in a year five quarts per day—not dry at all.

Feed—four quarts fine feed and two quarts of meal per day.

She dropped calf two weeks ago.

STATEMENT OF GEO. K. PEVEAR.

Cow "May Flower," fawn and white, dropped May 1, 1872. Sire, R. S. Rogers's Bull. Dam, Pansy, 3d, No. 718. Jersey Herd Book, Vol. III.

"May Flower" dropped "Kate" March 12, 1879. When she was in full milk, she gave 20 quarts, and for an average of six months, 16 quarts per day.

May	25,	she gave	37	lbs. of milk.
"	26	"	39	"
"	27	"	38	"
"	28	"	39	"
"	29	"	40	"
"	30	"	37	"
"	31	"	40	"
7 days			240	pounds or 111.6 qts. milk,

from which we made 11½ pounds of butter.

She is now giving 10 quarts of very rich milk, per day.

We know but little about making butter, and don't know as the record she makes is a good one, but we do know that the butter was first class. Perhaps persons knowing more about making butter, would have made more pounds from the milk.

"Kate,"—Calf. Sired by Champion, and owned by Henry Saltonstall, Esq., of West Peabody, Mass. Dam, May Flower, dropped March 12, 1879. 6 months 18 days old.

STATEMENT OF CHAS. J. PEABODY.

To the Committee on Milch Cows:—

GENTLEMEN:—I enter for premium for the cow that makes

Digitized by Google

the most butter in any week from June 1 to Sept. 15, my cow "Pet." She is nine years old, was raised by me and is three-fourths Jersey. She calved in June last, and gave at time of calving fourteen quarts of milk per day, on grass only. She has had no *grain* this season, and has made one pound of butter per day in the month of September up to the 25th, with grass and one feed of corn fodder per day. While this is not an extraordinary amount, I think it above the average considering the season of the year and the keeping.

HERDS OF MILCH COWS.

The Committee on Herds of Milch Cows report as follows:

1st premium, $18.00, to J. W. Blodgett, of Saugus.

3d premium, $10.00, to Charles J. Peabody, of Topsfield.

Two herds only were entered for premium. The President of the Society, Mr. Benjamin P. Ware, entered a herd of five cows for exhibition; having taken a premium at a previous fair they were not entitled to another. The example of Mr. Ware, in being at the trouble and expense of exhibiting his herd, with no expectation of a premium, is deserving of mention and worthy of more frequent imitation.

There was the same failure by exhibitors as occurs every year, to comply with the requirements of the society as to a detailed statement of the keeping and yield of their cows. The rule of the society requires "a correct statement of the manner of keeping and yield for six months preceding the entry, or if all have not been in milk six months, then for a shorter time."

Mr. Blodgett gives the amount of milk sold, but not the amount actually produced, for he says part of it "was used in rearing stock," and besides, it is fair to presume that his family was not altogether deprived of a portion of it; nor is it a very violent presumption to suppose that the "rearing of stock" *may* refer to that reared in the house as well as to that

Digitized by Google

reared in the barn; but neither he nor Mr. Peabody says anything as to the yield of individual animals.

Each gives the date of the dropping of the last calf, but Mr. Blodgett gives no information at all as to the time of dropping the next calf. Mr. Peabody gives the time of the next calving of only three of his cows; the inference is that they are not in calf. These are important and, indeed, necessary elements in judging of the actual and comparative value of a herd of cows, and ought always to be stated.

Mr. Blodgett's exhibit was a very fine one. The cows were nearly all thoroughbred Ayrshires, the residue grade Ayrshires, and were all handsome, of good size, possessing all the points for which the good judge of a good cow always looks. They were in excellent condition, indicating the best of care and good feeding; any cow in the herd was fit for the butcher.

His statement shows the average daily yield for six months to have been 8.7 quarts per cow, without deducting the unknown quantity used in "rearing stock," whether in the house or in the barn. The committee judged, from verbal statements, that the average yield per cow, had all the milk been accounted for, would have been fully ten quarts per day, a good showing considering the times of the dropping of the calves.

Mr. Peabody's statement discloses poor feeding, and the appearance of the cows and their product for six months, corroborate his written statement. And yet the cows were naturally good milch cows—better than the average—and with better care and better feeding would have been a much more profitable herd.

The statement of each is annexed to this report.

The committee desire to express the hope that the Secretary may be able, in some way, to bring to the notice of the farmers of the county the importance and necessity of a full and accurate statement of the manner of keeping and yield, not only of the herd but of all the necessary facts concerning each cow of the herd. The committee were all present.

H. G. Herrick, Horace C. Ware, Alden C. Estes, Samuel A. Merrill, Elias Andrews—*Committee.*

Digitized by Google

STATEMENT OF J. W. BLODGETT.

To the Committee on Herd of Milch Cows of Essex Co., Mass.:

GENTS:—During the past six months I have kept eighteen cows; I have thirteen entered at the fair and five at home on the sick list. During the months of April and May the cows were fed on salt hay, with the exception of one feed per day of English hay, also, from six to eight quarts each of equal parts of Oil meal, Indian meal and shorts. The balance of the time they have run to pasture and had from two to four quarts of the same grain and what hay or corn fodder they would take. A part of the milk has been used for rearing stock.

Following I give the time each cow has calved; also, the number of cans of milk, containing eight and one-half quarts, sold per month:

Moll Pitcher,	dropped	calf,	Feb. 24, 1879.
Susy Avondale,	"	"	Dec. 1, 1878.
Frolic 4th,	"	"	Oct. 14, 1878.
Mary Burke,	"	"	Nov. 9, 1878.
Dolly 2d,	lost	"	May 17, 1879.
Parepa Rosa,	dropped	"	Dec. 28, 1878.
Lady Lyman,	"	"	Jan. 6, 1879.
Elsie,	"	"	March 1, 1879.
Louise,	"	"	June 20, 1879.
Pet,	"	"	April 13, 1879.
Pride of Saugus,	"	"	May, 1879.
Flora,	"	"	March, 1879.
Nellie,	"	"	March 28, 1879.
Jennie,	"	"	March 27, 1879.
Myrtie,	"	"	May 1, 1879.
Duchess,	"	"	May 9, 1879.
Elsie Saunders,	"	"	Nov. 27, 1878.
Christmas,	"	"	April 17, 1879.

Milk sold as follows:—

April, 1879, . . 544 Cans.

Digitized by Google

May,	1879, . . .	660	Cans.
June,	" . .	611	"
July,	" . . .	586½	"
Aug.,	" . .	504½	"
Sept.,	" . . .	435½	"

STATEMENT OF CHARLES J. PEABODY.

This herd of Milch Cows, eight in number, entered for premium, has not been fixed up to exhibit, but came from home with no extra feed or care. I describe them by number as they stand in the pens.

No. 1. Is a native cow, 11 years of age; calved, July 25; gave then 13 qts. per day, now gives 10½.

No. 2. Is grade Jersey, 9 years old; calved, July 18; gave then 15 quarts per day, now gives 12.

No. 3. Native, 7 years old; calved, Dec. 28, 1878, will next calve in December or January; gave, at time of calving, 14 quarts per day, has been dry about 20 days.

No. 4. Grade Jersey, 9 years old; calved in June last; then gave 14 quarts per day, now gives 10. Raised by me.

No. 5. Grade Ayrshire, 4 years old; calved in July; then gave 12 quarts per day, now gives 9. Raised by me.

No. 6. Grade Ayrshire, 4 years old; said to have calved in April, will next calve, April 4. I bought her in June; then gave 7½ quarts per day, now gives 5½.

No. 7. Grade Jersey, 3 years old; calved, March 20; then gave 9 quarts, now gives 6 quarts per day; will next calve in April. Raised by me.

No. 8. Grade Jersey; calved, May 10; then gave 11 qts., now gives 8 per day; will next calve May 1. This I also raised.

The whole produce of the herd since April 1, 1879, is as follows —

Butter, 370 pounds.

Digitized by Google

Milk, 2160 quarts. This is in addition to the amount used in the manufacture of butter.

Calves sold to the amount of $22.50.

Skimmed milk and butter milk, fed to pigs, estimated to be worth one cent per quart, $30.00.

The cows were fed in winter five times per day, 2 feeds salt hay, 2 corn stalks, 1 English hay, 4 to 6 quarts cob meal to each of those giving milk.

Summer feed, grass only from May 15 to Aug. 1, from which date to Sept. 27, corn fodder at night in addition. No grain is fed.

Milked at half past five in the morning, half past six at night.

Watered twice a day in winter, water in the pasture and in the yard at night.

HEIFERS—FIRST CLASS.

The Committee award to:

J. W. Blodgett, Saugus, Thoroughbred Ayrshire 2 years old, 1st premium, $12.

H. A. Pevear, Lynn, Jersey do do, 1st premium, $12.

J. W. Blodgett, Saugus, Ayrshire, 2nd premium, $6.

J. A. Rogers, James Nason, Henry E. Kimball—*Committee.*

HEIFERS—SECOND CLASS.

The Committee on Native or Grade Heifers have attended to their duty and have awarded the premiums as follows:

To John S. Ives, Salem, on his 3 year old Heifer in milk, the 1st premium, $12.

To John A. Jones, Lynn, on his 3 year old Heifer in milk, the second premium, $6.

Digitized by Google

To Sydney F. Newman, Newbury, on his 2 year old Heifer, the first premium of $6.00

To John S. Ives, Salem, on his 2 year old Heifer, the 2d premium of $4.00

To Sidney F. Newman, Newbury, on his Heifer Calf, 10 months old, the first premium of $5.00. On his Heifer Calf, 8 months old, the 2d premium of $3.00.

Aaron Low, H. C. Harnden, H. W. Foster, David Stiles—*Committee.*

TOWN TEAMS.

The Committee award to the citizens of Lynn for town team of Horses, 1st premium, $30.00.

T. T. Paine, Jos. Longfellow, J. R. Allen—*Committee.*

WORKING OXEN AND STEERS.

To Henry Gardner of Peabody, for Working Oxen, 1st premium, $12.

To R. S. Bray, of Newbury, for do do, 2d premium, $10.

To J. J. H. Gregory, of Marblehead, for do do, 3d premium, $8.

To Horace P. Noyes, of Newbury, for Working Steers, 1st premium, $10.

To W. W. Perkins, of Newbury, for do do, 2d premium, $8.

Daniel G. Todd, Hartwell B. Abbott, Dudley Bradstreet, Caleb Childs, R. W. Ricker—*Committee.*

STEERS.

The Committee on Steers found four pairs of Hereford Steers all well broken, and presented for premiums, by Byron K. and Benjamin and Ralph Farnum, of North Andover,

Digitized by Google

grandsons of Mr. Jacob Farnum, who, with his sons, have ever taken quite an interest in our exhibitions, and we wish this spirit of encouraging the boys might be more generally displayed by the members of our society. The 2 years old Steers, presented by Byron K. Farnum, attracted great attention, as they were broken to work on either side, and handy without a yoke, and we awarded him the first premium of $6, and also the 1st premium of $4 on his 6 months calves; and to Benny and Ralph Farnum, the 1st premium of $5 for their yearlings, and on their two years old, the 2d premium, $5.

The Committee consider the boys entitled to great credit for the thorough manner in which the steers were all broken, and would suggest that the society offer a premium for the best broken Steers of 2 years old and under that age.

Respectfully submitted for the Committee,

B. S. Barnes, *Chairman.*

STALLIONS.

The Committee on Stallions would report that they have awarded the first premium of $15 to George W. Rogers, of Salem, for his 5 year old Stallion; the second premium, of $10, to Chas. S. Clark, of Salem, for his 5 year old Stallion, Lexington; the third premium, of $8, to H. M. George, of Saugus, for his 4 year old Stallion, Volunteer Prince. In the second class they have awarded to J. J. Downing, Andover, the first premium of $10, for his three year old Stallion Colt, it being the only one offered for premium. They have awarded the special premium, of $25, to Alley & Crowninshield, for their Stallion, Winchester.

Wm. Cogswell, *Chairman.*

BROOD MARES.

The Committee have met and examined all the Brood Mares

Digitized by Google

and foals offered for premium, and award the premiums as follows:—

The first premium, of $15, to E. & A. W. Mansfield, of Peabody; second premium, of $10, to Chas. O. Beede, of Lynn; third premium, of $8, to J. H. Preble, of Lynn.

C. H. Gould, A. B. Woodis, George P. Wilkins, M. B. Merrill—*Committee.*

FAMILY HORSES.

The Committee on Family Horses met on the Fair grounds at the time appointed, and having attended to their duty would submit the following report to the Society.

There were seven horses of this class presented for our examination, not one of their owners having complied strictly with the plain and necessary rules of the society. But in justice to the animals presented, as well as their owners, the committee, after very careful examination, awarded the following premiums:—

H. M. George, East Saugus, first premium, $15.

John Grout, of Danvers, second premium, $10.

Daniel G. Todd, of Rowley, third premium, $8.

In concluding this report, your Committee would make a few suggestions which, if regarded by competitors for premiums in this class of horses, would prevent much disappointment among the owners of these animals, and save the committees much useless labor.

First, the family horse should be perfectly sound, from end to end, and free from all habits or tricks that would render him unsafe for any adult member of the family to use for all family purposes.

Second, he should be of fair size, not weighing less than a thousand pounds nor more than eleven hundred pounds.

Third, and in order to secure that development and culture necessary in a family horse, the animal should not be less than six years old, (eight would be better) nor more than ten or

Digitized by Google

twelve. Colts may have all the qualities prospectively, but they need time and cultivation to mature into the perfect family horse.

Fourth, remember that this class of horses does not embrace the extremes of the cart or draft horse on the one hand, nor the exclusively trotting horse on the other, however desirable these qualities may be in their proper class.

Fifth, when you have such an animal and desire to enter it for a premium in this class, then make your entry at the Secretary's office at the proper time, accompanied with a written statement of the *condition*, *age*, *weight*, *habits*, and, if possible, the *pedigree* of your horse, signing your full name to your statement, and then be sure to be at the pens at the time appointed for the committee to make their examination, with suitable harness and carriage in which to show your animals, and to answer any questions the committee may wish to ask.

O. S. Butler, *Chairman;* Henry A. Burnham, M. C. Andrews, A. E. Lufkin, J. N. Rolfe.—*Committee.*

FARM AND DRAFT HORSES.

The Committee report that nine horses were entered for premium, and all performed the work well. We award the four premiums at our disposal according to the best of our ability. There were horses weighing 1200 lbs., and also, those weighing 150 to 175 lbs. less, all doing their work well.

Other horses were exhibited that were not employed on farms all the time, which we think should not compete with those used on farms exclusively.

We want for a farm horse, a fair traveller, and one that is sure at a pull, and also free from nervousness.

We award the first premium to R. S. Bray, of Newbury, $15.

Second, to J. A. Illsley, of Georgetown, $12.

Third, to W. A. Dane, of Hamilton, $10.

Fourth, to A. P. & R. Alley, of Marblehead, $6.

H. M. Goodrich, H. Young—*Committee.*

Digitized by Google

PAIRS OF DRAFT HORSES.

The Committee on pairs of draft horses award premiums as follows :—

To Edward P. Perley, of Danvers, first premium, $15.00.

To A. P. & R. Alley, of Marblehead, 2d premium, $10.00.

To Jonas Rollins, of Danvers, 3d premium, $5.00.

C. H. Gould, D. Knowlton, Wm. Thurlow, David Stiles, S. S. Pratt, A. B. Woodis—*Committee.*

COLTS—FIRST CLASS.

The Committee report as follows :—

Four Years Old Colts, five entries. Reuben Alley, Marblehead, first premium, $12; John Gibney, Salem, 2d premium, $8 ; Amos F. Breed, Lynn, fourth premium, $5.

Three Years Old, three entries. G. A. Newhall, Lynn, first premium, $10.

Edward Kent, Albert Kimball, Aaron Knowlton, Horace Ware—*Committee.*

COLTS—SECOND CLASS.

The Committee report, for Two Years Old—H. M. George, Saugus, first premium, $8; J. P. Palmer, Swampscott, second premium, $5.

Yearling—D. G. Todd, Rowley, first premium, $6.

James Flint, J. A. Hoyt, *Committee.*

SWINE.—FIRST CLASS.

The Committee on Swine met on the grounds and report as follows :—

Alfred P. Merritt, entered three Poland China Pigs, but no

Digitized by Google

premium can be given, as the rules require "not less than four to be entered."

Asa T. Newhall, Lynn, Litter Weaned Pigs, first premium, $10.00; M. Birmingham, Salem, second premium, $6.00.

S. E. Marsh, Lynn, Breeding Sow, first premium, $10.00; William Gaynon, Lynn, second premium, $6.00.

William Birmingham, Salem, Boar, first premium, $10.00.

B. P. Ware, not having given the age of his Litter, no premium can be given.

The task of awarding was a very light one, owing to the small exhibit, there being not above two entries in any class, which seems to show a lack of interest on the part of the members of the society.

It seems a duty of the Committee to urge upon exhibitors the necessity of complying with the rules in regard to making full statements, as for instance:—one of the finest litters of pigs at the fair had no statement as to their age, debarring them, of course, from competition. Another exhibitor, showed only three, when there should have been four. It is apparent, that the pig is a neglected beast, and his requirements should be studied more closely. All of us would do well to go to our Irish neighbor and learn points from him. It is a noticeable fact, that he always has a good animal, and for the very reason that he takes good care of him.

F. S. C. Herrick, S. Longfellow, R. G. Buxton, George L. Hawkes—*Committee.*

SWINE—SECOND CLASS.

The Committee award as follows:—

T. Jefferson Coolidge, Manchester, Breeding Sow, first premium, $10.00; Robert G. Buxton, Peabody, 2d premium, $6.

Robert G. Buxton, Peabody, Boar, first premium, $10.00.

Daniel Carlton, North Andover, Weaned Pigs, second premium, $6.

Digitized by Google

Doane Cogswell, Jasper Rea, David Wentzell, Albert Berry, John Foster—*Committee.*

SHEEP.

Tho Committee award as follows :—

To James Marsh, Peabody, for best ten Sheep, three years old, and upwards, first premium, $8.

William G. Horton, Ipswich, Full Blood Cotswold Buck, first premium, $8.

Otis F. Putnam, Danvers, Cotswold Buck, 2d premium, $4.

A. L. Moore, John A. Hoyt, Henry G. Kimball, Moses A. Plummer—*Committee.*

POULTRY—FIRST CLASS.

The Committee award as follows :—

To D. R. Palmer, Swampscott, Buff Cochin Fowls, second premium, $1.50.

C. L. Beckett, Peabody, Lt. Brahma Fowls, first premium, $3; W. M. Ward, Peabody, second premium, $1.50.

W. M. Ward, Peabody, Lt. Brahma Chicks, first premium, $2; C. L. Beckett, Peabody, second premium, $1.

S. E. Marsh, Lynu, Ducks, first premium, $2.

C. L. Beckett, Peabody, best Collection of Fowls, diploma.

M. N. Branscomb, Lynn, Lt. Brahma Chicks, gratuity, 50 c.

Peter M. Neal, Lynn, for Coop of Fowls showing greatest profit, first premium, $5. This flock, of four Light Brahma hens, and eight others, cross of the same breed, show a profit of $63.25 for one year. (See statement.)

Fred. J. Coffin, Daniel Buxton, jr., W. H. Allen—*Committee.*

STATEMENT OF P. M. NEAL.

I put four Light Brahma hens two years old, three Brown

Digitized by Google

Leghorn, two years old, and eight cross of the same, 1 year old, with one rooster, in my hennery on the 1st day of Jan'y, 1878. They had the range of my garden, with the exception of about four and a half months, during the warmest weather. All weeds from my garden were deposited within their enclosure—in fact, they had grass or weeds every day during the spring and summer, and during the winter I gave them two or three times a week some green vegetables cut up, such as turnips, beets, carrots, cabbages, &c. The sides of my hennery and the nests are lined with coal-tar paper, and I have never seen any vermin in the pens since I adopted this method. I also put kerosene oil on the roosts as often as twice a month. If any one will adopt this plan and keep the premises clean and give plenty of fresh water and good food, there will be but little danger of disease among their fowl. Below I give the produce of these fifteen hens for one year with the cost of keeping. The price of the eggs may appear a little high, but as I used them in my own family, I have given the price at what they were worth at retail for fresh eggs.

Jan.,	13	3-12	dozen	eggs,	35	cts.,	$4.64	
Feb.,	15	5-12	"	"	35	"	5.40	
March,	25	11-12	"	"	25	"	6.48	
April,	25	4-12	"	"	22	"	5.57	
May,	19	3-12	"	"	25	"	4.82	
June,	19	9-12	"	"	25	"	4.94	
July,	23	7-12	"	"	23	"	5.40	
Aug.,	18		"	"	22	"	3.96	
Sept.,	17	7-12	"	"	25	"	4.40	
Oct.,	9	10-12	"	"	33	"	3.25	
Nov.,	4	8-12	"	"	40	"	1.87	
Dec.,	3	7-12	"	"	40	"	1.43	
	196	2-12	"	"			$52 16	
Dressed poultry, 81 1-2 pounds,							18 74	
Added to stock, 17 hens at 75 cts.,							12 75	
Gross receipts,								$83 65

Digitized by Google

Gross receipts, - - - - - - - -		$83 65
Cost:—28 bushels corn and meal, 60 cts.,	16 80	
2 bushels wheat screenings, $1.00,	2 00	
2 bushels barley, 80 cts.,	1 60	20 40
Net profits,		$63 25

I have made no account of waste from the house, but as an offset the Indian meal used in the house was all charged to hen's account. I have three barrels of pure hen manure, worth at least $1.50 per barrel.

POULTRY—SECOND CLASS.

The Committee award :—

To G. W. Harris, Lynn, for Sea Bright Bantam Chicks, 1st premium, $2.

Stephen Connolly, Beverly, Game Bantam Chicks, 1st premium, $2; W. M. Ward, Peabody, 2d premium, $1.

H. Morton, Lynn, Plymouth Rock Chicks, 1st premium, $2; P. M. Neal, Lynn, 2d premium, $1.

Robert Winn, Salem, W. Leghorn Chicks, 1st premium, $2; E. W. Pecker, Lynn, 2d premium, $1.

E. H. Barnard, A. F. Harvey, John I. Ladd—*Committee.*

PLOUGHING—DOUBLE TEAMS.

The Committee award to :—

Joseph Goodridge, West Newbury, Eagle 20, 1st prem., $12.

J. L. Farnham, North Andover, Hussey, 2d prem., $10.

Jaques & Bray, Newbury, Eagle 20, 3d prem., $9.

J. J. H. Gregory, Marblehead, G. W. Winslow, Ploughman, 4th prem., $8. Plough made by Mr. Winslow, who ploughed at the show forty-nine years ago.

James P. King, Wilbur F. Procter, Alvin Smith, T. G. Ordway, Hiram Goodhue—*Committee.*

Digitized by Google

PLOUGHING—SINGLE TEAMS.

The Committee award to:—

J. J. H. Gregory, of Marblehead, Lion Plough, 1st prem., $10.

R. T. Jaques, Newbury, Hussey Plough, 2d prem., $7.

W. E. Merrill, Newbury, Hussey Plough, 3d prem., $5.

Horace Ware, Henry W. Foster, Daniel G. Todd, Aaron Knowlton, Edward Kent—*Committee.*

PLOUGHING WITH TWO HORSES.

The Committee award to:—

J. W. Blodgett, Saugus, Oliver Chilled Plough, 1st prem., $12.

Asa T. Newhall, Lynn, Oliver Chilled Plough, 2d prem., $10.

Poor and Maguire, West Newbury, 3d prem., $8.

R. S. Bray, Newbury, 4th prem., $6.

Paul T. Winkley, Jr., Newburyport, 5th prem., $4.

Wm. E. Kimball, A. M. Robinson, David Smith, D. M. Cole, E. Harrington—*Committee.*

PLOUGHING WITH THREE OR MORE HORSES.

The Committee award:—

To A. P. & R. Alley, Marblehead, Oliver Chilled Plough No. 40, R. Alley, driver, Peter Winslow, Ploughman, 1st prem., $10.

Ansel W. Putnam, C. J. Peabody, J. G. Page, Anthony Hatch—*Committee.*

Digitized by Google

PLOUGHING WITH SWIVEL PLOUGHS.

There were three entries for Swivel Ploughs. There were horse teams entered by Edward P. Perley and Jonas Rollins of Danvers, two horses each. One ox-team entered by Messrs. Wilkins and Bachelder, of Middleton.

The work done by the horse teams was good, and that done by Mr. Perley particularly so. The furrows were turned over fair and handsome.

Your committee would recommend the first premium of ten dollars to Edward P. Perley. The plough he used was Pettingill's patent No. 3.

They would recommend the second premium of six dollars to Jonas Rollins. He used the Granger Plough No. 3.

The work done by the ox-team was not so good as that done by the horse teams. After some consultation among the Committee, they concluded to recommend the fourth premium of five dollars to be paid to Messrs. Wilkins and Batchelder.

The writer is of the opinion that farmers often mistake in using light ploughs, thinking by so doing a lighter team will answer the purpose, and thereby save expense. We mean particularly on rocky land or where there are pebble stones.

We remember a case many years ago when the fair was held in Andover, a man in Methuen concluded to try his luck with a two-horse team. He went to one of the manufacturers in Boston who proposed giving him a plough provided he would take the first premium. . He brought home two ploughs of different sizes and to our field to try them. He at first used the lighter one which was not satisfactory, as it was disturbed by some small stones in the soil. He then used the larger one which made good work. He used it at the fair, took the first premium, and kept the plough as a gratuity. We afterwards purchased the plough and it proved a good one. The lighter plow might have answered well where the land was light and free of stones.

JOSEPH HOW, *Chairman.*

Digitized by Google

AGRICULTURAL IMPLEMENTS.

The exhibition of Agricultural Implements, though not a large one, contained, as usual, some excellent specimens of that ingenuity for which the inhabitants of the United States have acquired a world-wide reputation. Whittemore Bros. of Boston were the principal exhibitors, presenting some seventy-five implements. Among them the Oliver Chilled Plough, the Yankee Hay Rake, and Woods' Mowing Machine appeared to the Committee to be especially worthy of commendation. The clause in the regulations of the society, that "No premium or gratuity will be awarded for any Mower, Horse Rake, Tedder or other machine, the merit of which can be known only by actual trial in the field," is evidently founded in good practical sense, and with such limitation to their sphere of action, the Committee will only say that the Oliver plough struck their eye as having a very good thing in its "jointer," a kind of a junior plough share, which looked as though it might turn down, for covering with the main plough, tall grass and weeds, thus saving the labor of roughly cutting over with a scythe. The Yankee Horse Rake appeared to be free from the great fault of most of the class, scratching the ground, and filling the hay with dust; indeed, one of the well-known farmer family of the Bushbys, who chanced to be near, gave, as his experience in their use, that the hay raked by them was as free from dust as when hand raked. The improved Woods' Mowing Machine is understood to have combined with the old machine all the good features of the Sprague Mower.

The Granger Plow, exhibited by the Wadleigh Plow Co. of Meredith, N. H., was of the swivel class, having the peculiarity of a double mould board, by which it was claimed that the work done was equal to that by the best of landside plows, which would certainly be a great gain when, with all their excellent qualities, the deficiencies of the swivel class of plows are considered. To the committee, the plow appeared to handle rather heavy and be a little complicated in its struc-

Digitized by Google

ture, but the idea of a double mould board struck them as a valuable novelty worthy of recognition.

E. S. Flint of Danvers exhibited a Hand Corn Planter. This implement appeared to do its work well for hill planting, for which it was evidently designed, but why will farmers plant in hills, either corn or potatoes, when drill planting has been proved to yield greater crops, while with modern implements the crops thus planted can be cultivated at less expense?

Isaac Little, of Newbury, exhibited a patent Horse Hitch, which struck the committee as likely to be a good thing with a class of horses, though, as was suggested, it would be likely to do best with those horses that do not need hitchings. Still the great importance of encouraging any device that might prevent some of that class of deplorable accidents with which the daily press teem, led the committee to recognize it with a premium.

It was a matter of some surprise that no specimen of the Manure Spreading Cart was on exhibition. The Chairman has two in use on his Middleton farms, and is exceedingly pleased with them. No hand work can compare with what they do, either in rapidity or thoroughness of work. The manure is torn into fine particles which flow in a continuous stream from the rear of the cart. The bottom is an endless apron which passes the manure to the rear, where it is torn asunder and scattered in a fine shower by a revolving cylinder set with spikes, which extends the width of the cart. The coarsest, the roughest and the toughest of manures are all mastered by it. Three men loaded and spread forty loads of rough compost in a day, when the land was not far from the manure heap. As every practical farmer knows, fine manure thoroughly spread, is worth to him a quarter more than the same half scattered in coarse lumps; while the great fault of three-fourths of ordinary farm-hands, that of leaving the manure twice as thick where the heaps were dropped as on the remainder of the field, is completely obviated by this valuable machine. In its practical value to the farmer, the Chairman would rank it with the mowing machine and hay tedder.

Digitized by Google

There was on exhibition in the tent an ancient wooden mould board plow, made forty-four years ago by Washington Winslow of Marblehead, and used by him in the plowing match of the day. Mr. Winslow took one of the prizes just fifty years ago, and hale and hearty, steps forward to compete at the end of half a century with a plow of his own manufacture, while two of his sons hold plows in the same field. Can any sister county produce a like trio?

The Committee have made the following awards, viz. :—

For the best collection of Implements and Machines, $15 and Diploma, to Whittemore Bros. of Boston.

To Wadleigh Plow Co. for Granger Plow, $10.

W. D. Huntington, Lynn, Adjustable Harrow, $5.

E. E. Lummus & Co., for Frank Bramer's new Randal Harrow, $5.

Robert F. Dodge, Wenham, Prescott's Door Hanger, $5.

Isaac Little, Newbury, Patent Horse Hitch, $3.

J. J. H. Gregory, R. A. Smith, *for the Committee.*

CARRIAGES.

The Committee on Carriages have attended to their duties and report, viz. :—

To Sawyer & Chase, of Lynn, best display, $15.

To T. W. Lane, Amesbury, good display, $6.

To William Chase & Son of Merrimac, one fine Extension Top Carryall, $5.

To Dole & Osgood, Peabody, Platform Express, $4.

To Gilman Andrews, of Salem, 1 Express Wagon, $3.

To H. P. Whipple, of Danvers, 1 Express Wagon, $3.

To R. E. Clarkson, of Amesbury, 1 Spring Sleigh, $3.

To Bailey & Wood, of Boston, for Sleigh in Wood and Iron, we award the Diploma.

The Committee regret the small amount of money at their

Digitized by Google

disposal, considering the unusual display of good carriages, especially that of Sawyer & Chase, of Lynn, and one or two others.

Thomas K. Leach, Aaron Sawyer, John Meacom, Frank Marsh—*Committee.*

DAIRY.

There were ten specimens of Butter presented for premium, one, however, of only "two pats," and one tub for exhibition only. Of the exhibitors, six only gave written statements according to the rules of the society. One of the specimens before us would have received a premium, but not complying with the rules, by a written statement, the committee decided it not entitled. They, therefore, recommend the following premiums, viz. :—

Mrs. A. W. Patch, Hamilton, 1st premium, $10; Mrs. Sarah L. Ridgway, West Newbury, 2d premium, $8; Mrs. Farnham Stiles, Middleton, 3d premium, $6; John K. Bancroft, Lynnfield, 4th premium, $4.

There was only one specimen of Cheese exhibited, and after examination and deliberation, we decided unanimously to recommend no premium.

JOHN PRICE, *for the Committee.*

STATEMENT OF MRS. A. W. PATCH.

I enter for premium fifteen pounds of September butter, made in the following manner: The milk was strained in thoroughly scalded pans, and allowed to stand from twenty-four to forty-eight hours, according to the weather, being careful to skim the cream before the milk turns. Stir the cream daily, churn once a week, never put water after it comes; salt, an ounce to a pound. Let it stand over night, then work it over, weigh it into pound lumps ready for market.

Digitized by Google

STATEMENT OF SARAH L. RIDGWAY.

To the Committee on Dairy :—

I enter for premium ten pounds of September Butter, made in the following manner: The milk was strained in tin pans and allowed to remain thirty-six hours, then skimmed into tin pails and stirred at every skimming. As soon as churned, the butter was rinsed in cold water and salted to the taste with rock salt, worked twice, and made into pound lumps as presented.

STATEMENT OF MRS. FARNHAM STILES.

I present for your inspection seven and one-half pounds of September butter. This butter is salted for winter use, and is made as follows, from Jersey and Ayrshire cows. The milk is strained in tin pans, and set in a cool dairy room, skimmed as soon as the cream is fully raised, put into a stone jar and stirred every day; churn once a week or oftener according to the weather. The butter taken from churn, worked and salted to taste, let it stand till next day, worked again and made into lumps. I keep my butter in lumps set in stone jars, with firm paper tied over the top and the cover over that. I have no trouble in keeping my butter in this way perfectly sweet for a year, if required.

STATEMENT OF J. K. BANCROFT.

The milk from one Jersey and three native cows is set in shallow pans. The cream is taken off about the time the milk changes, and placed in a stone jar for four days, being stirred every day upon the addition of fresh cream. The butter is taken from the churn, the milk is worked out and the salt added, about one ounce to a pound of butter. It then stands twenty-four hours, when it is again worked and moulded.

Digitized by Google

BREAD AND HONEY.

The Committee on Bread and Honey report 22 entries for Bread, and 1 for Honey, and 1 entry of improved varieties of Meal.

1st premium on Bread to Mrs. J. F. Patten of Lynn, $3; 2d premium to Mrs. J. L. B. Adams, Lynn, $2.

Gratuities of $1 to Mrs. N. E. Ladd of Groveland, Mrs. D. R. Parker of Groveland, Miss Clara Haynes of Lynn and Mrs. Richard Breed of Lynn.

To N. N. Dummer of Rowley, Gratuity for Graham Bread, $1.

To Wm. Griffin of Lynn, Gratuity on Bread and Cake, $2.

To Alfred Green of Salisbury, for Honey, $2.

To Mrs. George Estes of Lynn, Gratuity for Sample Cake, $1.

To N. N. Dummer, Gratuity for Improved Varieties of Meal, $2.

JOSIAH NEWHALL, *for the Committee.*

PEARS.

Your Committee have the pleasure to report that the number of exhibitors this year, and the number of plates of pears exhibited, more than double those of previous years. The quantity and quality of the fruit were far superior to any we have ever seen in this, or in any other county, and we congratulate Essex county, and the city of Lynn more especially, for this unparalleled show of pears.

The whole number of exhibitors of pears was 186; number of plates exhibited, 878; number of varieties, 86, as follows:— 34 plates of Bartlett, 36 Belle Lucrative, 33 Beurre Bosc, 46 Beurre Clairgeau, 44 Beurre d' Anjou, 23 Buffum, 2 Clapp's Favorite, 59 Duchesse d' Angouleme, 12 Dana's Hovey, 7 Beurre Golden of Bilboa, 38 Lawrence, 65 Louis Bonne de Jersey, 9 Maria Louise, 21 Onondaga, 10 Paradise d' Automne,

Digitized by Google

51 Seckel, 8 St. Michael Archange, 44 Sheldon, 34 Urbaniste, 33 Vicar of Winkfield, 17 Winter Nelis, 13 Beurre Diel, 13 Flemish Beauty, 8 Beurre d' Angleterre, 4 Merriam, 8 Napoleon, 1 Beurre Oswego, 1 Gratioli of Jersey, 1 Princess St. Germain, 1 Pater Noster, 1 Columbia, 2 Doyenne du Comice, 1 Knight's Monarch, 1 Triumph d' Massett, 3 Jalousie de Fontenay, 3 Andrews, 1 Fig-pear, 1 Lewis, 2 Queen of the Low Countries, 1 Jamenette, 1 Duchesse d' Orleans, 2 Brandywine, 11 Howell, 5 Glout Morceau, 3 Pound Pear, 2 Kingsessing, 2 Beurre Gris d' Hiver, 9 Beurre Superfin, 1 Beurre Astor, 5 Beurre d' Amaulis, 3 Beurre Duranz, 4 Beurre d' Aremberg, 2 Beurre Starkman, 2 Beurre Mansion, 3 Beurre Hardy, 3 Beurre Easter, 3 Bezi de la Motte, 1 Rutter, 7 Doyenne d' Alencon, 4 Belle Epine Dumas, 2 Belle et Bonne, 4 Seedlings, 3 Fulton, 1 Duchesss d' Bordeaux, 1 McLaughlin, 2 Chelmsford, 1 Stevens' Genesee, 5 Souvenir du Congress, 2 Dix, 2 Des-Nonnes, 2 De Tongues, 14 Doyenne Boussack, 2 Pratt, 5 Neuveau Poiteau, 2 Rousselet de Rheims, 1 Bergamotte d' Esperen, 2 Josephine, 4 Colittas, 3 Washington, 1 White Sawyer, 2 Edmands, 2 Mt. Vernon, 1 Citron des Carmas, 1 assorted lot, and 1636 specimens from the old Endicott pear tree in Danvers.

Amesbury exhibited 29 plates of 29 varieties from one person, for which, $3 in premiums were awarded; Bradford, 19 plates, 15 varieties, from two persons, $11 in premiums and gratuities; Danvers, 53 plates, 45 varieties, from four persons, $6 in premiums; East Saugus, 23 plates, 12 varieties, from nine persons, $1 gratuity; Essex, 14 plates, 8 varieties, from five persons, $1 gratuity; Groveland, 4 plates, 3 varieties, from three persons; Hamilton, 6 pl., 6 var., from two persons; Haverhill, 22 pl., 22 var., from one person, $6, premiums; Lynnfield, 7 pl., 7 var., from one person; Lawrence, 9 pl., 8 var., from two persons; Lynn, 407 pl., 71 var., from one hundred twelve persons, $55.50, premiums and gratuities; Marblehead, 18 pl., 18 var., from one person, $4, premiums; Manchester, 3 pl., 2 var., from two persons, $3, premiums;

Digitized by Google

Methuen, 6 pl., 6 var., from one person; Salem, 91 pl., 35 var., from eleven persons, $3 premiums; Swampscott, 24 pl., 17 var., from three persons, $1, gratuity; Salisbury, 3 pl., 3 var., from one person; West Newbury, 10 pl., 10 var., from one person, premium, copy of the Birds of New England; Wenham, 2 pl., 2 var., from two persons, $3, premiums.

There was one exhibitor of 41 varieties, two of 30, one of 29, one of 21, one of 19, two of 18, two of 17, two of 15, one of 14, two of 13, two of 11, three of 10, two of 9, two of 8, nine of 7, fourteen of 6, thirteen of 5, sixteen of 4, twenty of 3, thirty-four of 2, and fifty-two of 1; to whom premiums and gratuities were awarded as follows:—

For best dish of twelve specimens of any of the varieties recommended by the society for cultivation in Essex county, first premium, $3 each,—Bartlett, Breed & Co., Lynn; Belle Lucrative, L. Newhall, Lynn; Buffum, E. F. Webster, Haverhill; Beurre Bosc, Alden Choate, Lynn; Beurre Clairgeau, Albert Kimball, Bradford; Beurre d' Anjou, do.; Duchess d' Angouleme, Hugh McManus, Lynn; Dana's Hovey, J. Henry Hill, Amesbury; Beurre Golden of Bilboa, John Price, Manchester; Lawrence, Moses Norris, Lynn; Louis Bonne de Jersey, B. G. Ladd, Bradford; Maria Louise, George B. Currier, Lynn; Onondaga, E. F. Webster, Haverhill; Paradise d' Automne, H. Alley, Wenham; Seckel, Josiah Fitz, 3d, Lynn; St. Michael Archange, Patrick Tracey, Salem; Sheldon, Wallace Bates, Lynn; Urbaniste, Breed & Co., Lynn; Vicar of Winkfield, Edwin Bates, Lynn; Winter Nelis, John B. Tolman, Lynn.

For twelve best specimens of other varieties worthy of premiums, $1.50 each—Beurre Hardy, Geo. B. Collins, Lynn; Howell, Moses Rich, Lynn; Beurre Superfin, John V. Stevens, Peabody; Doyenne du Comice, George B. Collins, Lynn.

For best dish of twenty-four specimens, premium $6. Beurre Clairgeau, Alfred Cross, Lynn. Second best dish, twenty-four specimens, premium, copy of Birds of New England,—Beurre d' Anjou, T. C. Thurlow, West Newbury.

Digitized by Google

For the best collection of the largest number of varieties recommended for cultivation in Essex county, premium $8, Alfred Cross, Lynn. Second best of the largest number, premium $6, Peter Wait, Danvers. Third best of largest number, premium $4, Benjamin P. Ware, Marblehead.

Gratuities of $1.50 each, for Beurre Clairgeau, S. T. Goodwin, Lynn; Seckel, George B. Collins, Lynn.

Gratuities of $1 each, for Beurre Bosc, B. P. Calley, East Saugus; Beurre Clairgeau, H. Downing, Lynn; Bartlett, do.; Duchesse d' Angouleme, Edwin Bates, Lynn; Louis Bonne de Jersey, C. B. Haven, Peabody; Beurre Bosc, M. S. Andrews, jr., Essex; Onondaga, Wallace Bates, Lynn; Beurre d' Anjou, Edwin Bates, Lynn; Sheldon, John H. Crossman, Swampscott; Urbaniste, L. Newhall, Lynn; Winter Nelis, Albert Kimball, Bradford; Beurre Superfin, do.; Onondaga, John V. Stevens, Peabody.

Assorted dish, W. B. Allen, Lynn, gratuity of 50 cts.; for Beurre Clairgeau, A. J. Hubbard, Peabody.

The Committee, four to one, are in favor of discontinuing the Buffum pear on the list for premiums, on account of its inferior quality, and recommend, instead, Beurre Superfin. We recommend, also, the Howell, and the Souvenir du Congress, to be added to the list for premiums, they being varieties that are worthy of the same.

The pear is a native of the old world. According to very authentic accounts, it has, from the most remote ages been there cultivated wherever soil and climate favored its growth.

The pear was grown in the beautiful gardens of the Hesperides, long before the beginning of the Christian era, and its excellence was not at all unknown to the ancients. It is even probable that the pear grew side by side with the apple and other fruits in the garden of Eden, where the first man and woman, before their fall, ate unsparingly of the delicious fruit.

Shortly after the discovery of the new world, the pear, following in the wake of advancing civilization, found its way to our shores. Though not indigenous to our clime it nevertheless

Digitized by Google

prosperously thrived, so much so, indeed, that we are informed on good authority that we grow as fine specimens as are grown in the artificial gardens of Paris.

It is only a few years since the pear began to be regarded with anything like favor by the people in general. At first, owing to its scarcity, very many knew nothing about it, and even in our day there are, I venture to say, living within five hundred miles of Boston, thousands who never saw a pear. In our own Essex county, where the pear is so well known and seemingly extensively cultivated, there are not pears enough raised to give four quarts to every family within its territory. This ought to be encouraging to persons desiring to cultivate the fruit for pecuniary profit, the more so as the demand therefor is great. Those who consumed but one quart last year will want at least two quarts this year. The taste will increase for it from year to year, till it will find its way to the table of the poor as well as to the table of the rich.

The rapid increase of our population in every town and city will create a still greater demand, hence, it may not be rash to predict that the pear is destined to become widely known and loved, and finally indispensable as an article of diet. Our chairman once asked a friend of his, who had just bought a lot and built a house on it, to set out some pear trees, grape vines, etc. "Pears!" said he, "what do I want pears for?" He told him that if he did not want to eat them himself, his children assuredly would, and enjoy them, and would thereby be prevented from hankering after those of others. He moreover suggested that it would be for himself a strong preventive against the dramshop to employ his leisure time improving and nursing them. Ultimately, after four years persuasion, on condition that he would warrant the trees to live, and plant them himself, he yielded, and in the spring of 1872 he set out for him the required number. About the middle of last August he invited him to come and see his pear trees. He went. They were loaded down with fine pears. "There," said he, "one hundred dollars apiece would not buy these trees." His

Digitized by Google

only regret was, that he had not planted them four years before as he advised him to do. His children, too, now rejoice that they have pears of their own.

We occasionally meet laborers and mechanics who, by industry and prudence, save enough to build for themselves neat, comfortable homes, and much enhance the beauty and attractiveness of these homes by planting around them pear trees, grape vines, etc. This is a step in the right direction towards improvement, and our committee earnestly wish that every man in the county, owning a plot of ground, would catch the same fever, so that all may enjoy this delicious fruit. We see nothing to prevent it, since almost every foot of soil in Essex county is well adapted to the growth of the pear. Therefore, every man, having even a half-acre lot under his control, can raise his own fruit. Apples, pears and peaches can be grown here to perfection, and if not disposed of otherwise can be canned, and thus preserved the whole year round. Now, as we are a bilious people, that is, many of us are thus disposed, we think there is no better preventive against the disease than the constant use of wholesome fruit as a part of the diet. It contains acids and juices which greatly assist the stomach to regulate a healthy digestion. It purifies and strengthens the blood, and thus gives a healthy tone and vigor to the whole constitution. There is no other kind of food, too, so conducive to the promotion of chastity, morality and all the nobler virtues in people than good, ripe fruits, far better than the products of the butcher's cart.

Therefore, we would strongly recommend to all who can, the advantage of raising pears, etc., both for their own use and for pecuniary profit. Then, too, there is a pleasure and profit in giving some to our poorer friends who cannot raise pears for themselves or conveniently buy any. Large and small owners of land, who have no pear trees, are not aware of the treasure hidden from them, yet within their reach, nor are they aware of the pleasure derived from planting and nursing the pear, watching its growth and development, and plucking there

Digitized by Google

of the rich fruit from the drooping limbs. This is real enjoyment which can scarcely fail to exercise a beneficial influence upon the health and habits of persons who devote their leisure hours to this branch of industry.

Mr. Isaac H. Kelly, of Haverhill, says that about ten years ago, a lady neighbor of his was suffering from general debility, and to all appearances on the point of death. He sent her some ripe Beurre Clairgeau pears. They seemed to have a wonderfully reviving effect on the debilitated lady, who continued to use them till she was finally restored to perfect health. To Mr. Kelly belongs the credit of first fruiting the Beurre Clairgeau pears in Haverhill. Our committee are of opinion that all fruit growers should raise their trees from the seed. They have come to this conclusion for various reasons. First, as animals are improved by breeding from pure and healthy stock, why not apply the same rule to the raising of trees from pure and healthy seed? Second, every one who has had any experience with trees sold by nursery agents can tell the loss sustained from that source. Some of these trees we have known to struggle for existence two or three years and then die; others not to live through the first season, and some that did not put out at all. This, to say the least, must be aggravating to the purchaser, who wastes his money and labor in setting out worthless plants raised from worthless seed grown on diseased trees. In western New York, where this wholesale business is generally done, there is seemingly but very little regard paid to the future health, thrift and fruitfulness of the plants. On the contrary, they raise from anything and everything that bears pears, and force the trees along, somewhat after the manner that some manufacturers shove shoddy shoes into the market, and that is the end of it with them. We have every reason to believe that trees thus propagated from varieties affected with disease, will, sooner or later, fall a prey to its destruction.

The chief object of raising trees from the seed is to obtain

Digitized by Google

stocks for budding or grafting, as it is well known in pear culture that no variety will re-produce itself from the seed. Hence, the resort to artificial methods for propagation. The first step to be taken towards this is, to select for seed the best specimens when fully ripe, grown on sound, vigorous and healthy trees; when this is done, place the fruit in a box and leave it until decay reduces it to a pulpy state, then wash out the pulp and dry the seed by spreading it thin on a board and turning it over occasionally, as you would any seed. If the soil or ground is naturally dry, deep and rich, the best time to plant the seed is in the fall, in drills three feet apart. This distance will admit of going between them to keep the soil pliable and mellow when the plants are up. When the drill is made, open it with a hoe about five inches wide and three deep, then drop the seed and draw over it with the hoe the fine pulverized earth as evenly as it can possibly be done. A top dressing of decomposed stable manure, or partly decayed leaves, to the depth of an inch or so, should be applied. This will prevent the surface in early spring from baking or cracking, which will help the plants to come up readily, strong and vigorous. The covering on the seed should not be too deep, not over three inches including the top dressing.

Care must be taken that they be not in any way stunted, either by any obstacle in the way coming up through the soil, or by weeds and neglect afterwards. Seedlings stunted in the early stages of their growth, never make sound, thrifty, healthy trees, and therefore should never be planted. If they come up too close together, they should be thinned out when four or five inches high to regular distances, about ten inches apart. When left too thick they grow up slender and feeble, and consequently unfit for further use. As one strong seedling is worth twenty poor ones, we must therefore see the importance of thinning out all the weakest plants. Pear seedlings of one season's growth must be taken up late in the fall, before the ground freezes, and packed close together. Having no side roots to hold them in the soil, they cannot stand the severity

Digitized by Google

of the hard blasts of winter. The best place to keep them is a dark, cool cellar, where frost will not touch them. In transplanting them in early Spring, when the ground is fit, cut back a portion of the tap roots, and shorten the stem correspondingly. Set them out two feet apart in drills, which will give them ample room to throw out lateral roots, and grow strong and stocky. We know of a party in Bradford who lost several hundreds of pear seedlings by leaving them in the ground the first winter. If a strong, vigorous growth is obtained after transplanting, they will be fit to bud the same season, about the middle of August. Now, then, having procured good healthy stocks to bud on, it will be also necessary to procure good, sound, healthy buds. This can be easily done by selecting from the varieties that are to be propagated, strong, vigorous shoots, free from any disease. Pinch off their tip-ends and let them grow until wanted. This will hasten the development of the buds, and they will be in good condition to use in about two weeks. None but the most prominent buds should be used under any circumstance, as it is this little bud that is inserted under the bark of the stock, that becomes in future the standard tree. Budding is simple enough when rightly understood, but to meet success it must be done right. The first thing to be done in performing the operation, is to remove from the stock any shoots that would be apt to interfere with the insertion of the bud; then with the budding knife make two incisions in the stock, one horizontal and the other perpendicular, in the form of the letter T, about two or three inches from the ground; strip off the leaves from the bud shoot, but leave a portion of the leaf-stock attached to the bud to handle it with. In cutting the bud off hold the shoot in one hand and the budding knife in the other; enter the knife half an inch above the bud and draw it down parallel with the shoot and bring it out three-quarters of an inch below the bud. Care must be taken to make a clean cut and not to take off any wood with the bark. But if a little should be taken off, see that it adheres firmly to the bark, as ragged bark and little slivers of

Digitized by Google

wood hanging to the bud will never do. Use the end of the handle of the budding knife to raise the bark gently on the edges of the perpendicular cut, then the bud may be inserted under the bark, and care must be taken that the piece of bark attached to it be cut square at the top, so as to fit snugly to the bark on the horizontal cut, tie with palm leaf or such as is used in cane-seat chairs. Success in this operation will depend entirely on clean cutting, good fitting and good tying. Budding should be done on the north or east side of the stock, because thus the stock will partly shade the bud. Too much exposure to the sun's heat during August and September is apt to interrupt the process of healing by curling the tender bark on the wound, and perhaps cause budding over again. In about four weeks, if the bud has caught, the strings may be removed, to save the bark from denting.

The following spring after budding the seedling, that is if the bud is all right, rub off all the shoots appearing on the stock, so as not to impede the growth of the bud. During the latter part of July or the first of August all above the bud of the stock may be removed, by making a sloping cut clean and smooth and close to the bud, but not so close as to cause any injury to it. Now we will go to work again on the seedling the next spring, that is, the second spring after budding, at which stage the tree is one year old from the bud. All further treatment comes under the head of pruning, as here comes the time to commence to give it shape and form. The first question comes, then, what distance from the ground should it branch out and grow stocky? There is no definite rule, that we are aware of, on this point, as some people prefer tall trunks while others prefer low ones. However, we are of opinion that no standard pear tree should have a branchless trunk above three feet from the ground. This in a manner gives the tree the advantage of shading itself from a hot, glaring sun, and is a safeguard, in a measure, from high winds. We are also of opinion, from a little experience, that the pyramid or umbrella shape is the handsomest and best form that

Digitized by Google

can be adopted, not on account of its beauty alone, but it admits readily sun and air through the branches. During the second season's growth of the young tree, the small shoots on the stem or trunk should not be taken off, as they retain the sap in the lower part of the stem, which will give it a stout body. But they must be kept within bounds and not allowed to grow too long, by pinching often through the season, as allowing them to grow too fast would check the growth of the leader. Late in the fall, or early the following spring, all the side shoots should be removed and a branchless trunk formed to three feet from the ground, as already spoken of.

To form the pyramid or umbrella shape, all straggling and tender side branches must be watched closely as they grow long and weak, and draw the sap from the leader; pinching off the ends of all such will regulate an equal circulation, which will cause every branch to grow stocky and strong. Let every shoot, commencing with the lowest, be about ten inches shorter than the one next above it, and so on to the top, and allow no surplus shoots to grow. Thus is obtained the fine symmetry of the perfect tree and a uniform growth on every limb.

What can be more repulsive to the eye than to see gardens encumbered with tall, straggling skeletons, unshapely and unfruitful, packed closely together, that afford no pleasure to the passer-by, nor remuneration to the owner for his outlays. Most trees have a natural tendency to grow tall without acquiring proportionally a stocky body, and very often, for that reason, the tree bends under its own weight, and hence the necessity to resort to propping it up. To avoid this altogether, prune, and let the sun and air circulate freely through the tree, that every branch may have ample room to fulfil its functions properly. It is well known to all fruit growers that the most perfect specimens of every kind of fruit grows in the sun not only perfect, but their skins are smooth and glossy, and brilliant in blush. This will give us an idea about pruning, and what to prune, and how to prune. A little experience and

Digitized by Google

study will enable most any one to acquire this knowledge, which should be strictly practiced on every fruiting tree.

Having said all that we think necessary on raising pear trees from the seed, budding, pruning, etc., we will take up grafting, the influence of stock on scion, and *vice versa*, preparing soil, transplanting, etc. This whole subject was suggested to us by Mr. D. W. Low, of Gloucester, who scarcely left us anything else (relating to the pear) to write on, after his instructive report to the society last year, on the general management of the pear.

Grafting is a science long known in fruit culture, and various modes of grafting are practiced in different countries. The French, it is said, have no less than fifty, and excel all others in the art. The most prominent modes in vogue with them, however, are whip, root, splice, skin and cleft grafting; their other modes are principally experimental. The object of grafting is similar to that of budding—to multiply varieties that cannot reproduce themselves from the seed, though it is often performed with other objects in view, such as obtaining a new variety quicker than by any other mode. A scion inserted in a bearing tree will hardly ever fail to produce the third year, but this cannot be said with the same operation on a seedling; it will show no sign of fruiting in that time. Therefore, we must see the importance of having older trees, and of the strong growing kinds for stocks to accomplish the object successfully; the slow-growing kinds are never apt to bring good results.

Crossing two healthy varieties of the pear family cannot but work very important influences on both (scion and stock) in producing fine fruit, as we have seen the Bartlett grafted on the Doyenne Boussack, the Dutchess on the Buffum, the Beurre d'Anjou on the Onondaga, Clapp's Favorite on the Flemish Beauty, to produce very fine and extra large specimens. The society has paid a premium two years in succession on specimens of the Beurre Clairgeau pear grown from grafts on a Flemish Beauty stock. The Flemish Beauty, Beurre Diel, Doyenne Boussack, Doyenne White, Buffum and Vicar of

Digitized by Google

Winkfield make most excellent stocks for most all other varieties.

Grafting is performed by inserting a scion of one variety on the branch of another, called the stock, and trees of all ages can be grafted successfully, if they be sound and healthy, and the scions also. Scions are shoots of the previous year's growth, and should be cut in February and tied up. The butt ends should be cut square, then placed standing in some part of the cellar floor where it is a little moist. Scions thus treated are kept dormant until wanted, with no shriveling of the bark, and will be in an excellent condition to use. They should be taken from the upper branches of thrifty and hardy trees well matured. Scions bearing fruit buds should not be used, and a medium size scion is better than one half an inch in diameter, pithy and unripe. The implements used in grafting are very simple; the grafting knife with chisel attached, saw, and a sharp knife to prepare the grafts with. There are various opinions expressed in regard to what is the best composition to be used in grafting. This subject was once extensively discussed before the Bradford Farmer's Club. Some preferred a composition made from bees-wax, tallow and rosin, equal parts. Others substituted linseed oil for tallow, with less bees-wax and more rosin than of either. But the majority, from long expe. rience, concluded that there was nothing equal to a simple composition made from fresh cow manure and brick-clay; one-third manure to two-thirds clay is about right to use. It will adhere firmly to the wound until it is all healed, and retains moisture, which is requisite during the process of healing; when it falls off it leaves the bark on the wound healthy, fresh and smooth; in fact, it is nature's own remedy and we have never known it to fail. On the other hand, a composition made from oily substances must be injurious to the tree, as it is foreign to its nature, and hence it cannot but interrupt, in a great measure, free circulation and impede progress in healing. Aside from grafting, we believe that oil or grease should not be applied in form to a tree, and in grafting, if the other agents

Digitized by Google

used in the compound did not counteract the action of the oil on the wound, the wound would never heal.

Of the several modes of grafting spoken of in our introductory remarks on grafting, we shall only recommend two for practical use, viz.: Skin and Cleft grafting. Having everything in readiness, composition, scions, implements, strips of cloth, thread to tie with, etc., Skin grafting is performed after this fashion:—Saw off the stock horizontally with a fine tooth saw, clean and smooth; and cut the scion on one side, about an inch and three-fourths long; make a shoulder at the top of the cut on the scion, and a slit in the bark of the stock to admit it. Care should be taken that the slit in the bark of the stock does not exceed in length the cut on the scion; raise the bark from the stock and insert the scion between the bark and wood; have the shoulder rest on the stock; then apply the composition all over the wound, wrap a strip of cloth (cotton) about three inches wide around it firmly two or three times and tie with small thread. We have heard objections to this mode of grafting, on account of the graft being blown off before growing firmly to the stock. Nevertheless we have tried it with success, and found it makes a strong perfect union, when the scion has grown as large as the stock. Cleft grafting is performed by sawing the stock, as in skin grafting, clean and smooth; then the stock is split by holding the grafting-knife in the centre and striking lightly with a hammer, use the chisel on the knife to keep the split open until the scions are inserted, one on each side; cut the scion in the shape of a wedge to fit snugly the split in the stock, and have a bud on it close to the stock on the outside; when this is done insert the scions firmly in the stock, and see that the inner barks of both scion and stock comes in perfect contact; then apply the composition, as in the case of skin grafting, and fill every crevice to exclude air and rain water; wrap a strip of cloth two or three times round it, and tie with thread as in skin grafting; success will depend on good fitting and clean cutting.

In large stocks an inch and a half in diameter or more, two

Digitized by Google

scions should be inserted, but if both grow, one should be removed when they get close together, as the wound on the stock will then be healed and only one is needed. Prune back the growth on the scion the following Spring so that it may grow stocky, and throw out shoots close to the stock, to form a new head for the tree. Grafted trees should be watched closely during the growing season, as they throw out immense quantities of suckers, which if left to grow will almost starve the young grafts. These should be checked as fast as they appear, though it is necessary to leave part of the branches on the stock to balance growth. They may be removed altogether the second or third season, or according to the size and growth of the tree. A little experience will teach how to regulate this.

REMARKS ON SOILS, PLANTING THE TREES, ETC.

The most desirable soil for pear trees is deep loamy soil, not alone in producing thrift and fruitfulness, but the fruit grown on such soil is par excellence in flavor and nutrition. There are other soils, such as sandy and clayey soils, that by judicious treatment might be made available for pear culture. Mixing ashes, clay, or muck, with sandy soil will be a great improvement, as these agents retain moisture and the soluble parts of manure, that will enable plants to stand the drouth better.

Clayey soil of itself makes very poor soil for all kinds of fruit trees, as in dry season it bakes hard and cracks, rendering it too impervious to that best of all plant food, the cool dews of night, in the Spring and Fall, and after heavy rains sticky mud not fit for trees to stand in.

The most proper way to improve such soil is first to tile-drain it, then to incorporate with it sand, muck, coal or wood ashes liberally. All kinds of soil for fruit trees should be dry, either naturally or made so by the system of drainage.

In preparing soil for planting trees, plow eighteen inches deep or thereabouts, bringing the sub-soil on top. This can be accomplished by going twice in the same furrow, first with a common plow then with a sub-soil. Small gardens, where the

Digitized by Google

plow cannot be used, can be dug with a spade any required depth by trenching, which should be done in this manner: commence on one side and open a trench two feet wide or so, and in depth as recommended for ploughing; carry off to the opposite side the dirt taken out of it (to be used in filling the last trench), then open the next and throw the surface soil into the bottom of the first and subsoil on top, and so on until the whole garden is trenched. In all cases for fruit trees, grape vines, etc., this depth is essential, as the roots will certainly go that distance downwards in search of food. If not ready to plant when your trees arrive, heel them at once, by opening a trench deep and wide enough to admit all the roots, being careful to cover the roots well to exclude air. When ready to plant take off all bruised roots and mutilated branches, making a clean slanting cut every time, and cut back the last year's growth to two or three buds. Make the hole somewhat larger than is necessary to admit of all the roots in their natural position, and throw out the surface in one pile and the subsoil in another. Sink the hole about two feet and a half deep, round it up with surface soil, and have three inches of the trunk above where the roots branch out covered, on a level with the surface. A great many trees are spoiled by both deep and shallow planting. To set a tree to the proper depth, use a narrow strip about five feet long, lay it across the hole on the surface; then set the tree in the hole, measure three inches from where the upper roots branch out on the tree, to the under side of strip, work pulverized surface soil between and under the roots with the hand; stretch out every little fibre carefully, and when the roots are well covered tramp down hard so that the tree will stand as firm as a post; spread the subsoil on top light and loose.

Trees should be set leaning a little towards the north-west, as most of our heavy gales blow from that direction, and young trees with heavy tops cannot resist their forces. Consequently we see a great many in our travels leaning towards the east or south-east, when from seven to ten years old. Use

Digitized by Google

no manure in contact with the roots, and mulch, especially during the first season, with coarse straw, salt hay, or corn stalks; this will keep the soil cool and moist round them, and prevent injury from drouths in dry seasons. The proper distance apart for pear trees in orchards is about twenty feet each way, but this distance cannot be well adopted in small gardens. We very often see one tree growing under the shade of another, but the result is, tall, straggling skeletons, without shape or form and as a rule unproductive. In cases of this kind it is better that one tree should occupy the whole space taken up by two, as the yield thereby would be improved in quantity and quality, to say nothing of the general welfare of the tree. In all cases give them plenty of room, good deep, dry soil, clean culture, severe pruning, and success will be the reward. We very often hear some persons recommend, when planting trees, to fill up the bottom of the holes with old shoes, glass bottles, pieces of scrap iron, tin cans, old crockery, and any kind of rubbish, but for what purpose we have yet to learn. It may be safely said that none of these articles named contain any plant food, and furthermore we believe that such rubbish would greatly interfere with the roots taking a firm hold in the soil. This rubbish must work up towards the surface by the action of the frost, the same as stones, which would be a great nuisance in a garden until removed.

We wish to offer a few remarks on the so-called fire-blight, the most dangerous disease that the pear tree is heir to, but whether it is caused by the sudden changes of the atmosphere, imperfect drainage, or heavy manuring remains, in a measure, to be proved.

The disease makes its appearance at different periods, sometimes in early Spring before the trees put out, and through June and July, long after the leaves are out, attacking the branches first. We believe that heavy manuring has everything to do with this disease, as stimulating the soil too highly with rich manure forces immature growth, which cannot stand the changes of our climate without injury. Mr. Richard

Digitized by Google

Webster of Haverhill, says that he has been almost entirely exempt from this disease in an orchard of over four hundred pear trees. He laid it down to grass seven years ago, and it has borne heavy crops of fine hardy fruit most every year since. He also says that his orchard has had no top dressing of any kind during that time, which is a strong argument against heavy manuring. We have said, and believe it, that over manuring and imperfect drainage are some of the causes that produce the blight; still there are other agents that work death to all kinds of fruit trees, and that is growing corn, oats, barley or rye between and around them, especially corn, which draws from the soil its woody substance, or materials; robbing the trees of that which by nature belongs to them. This is proved by the present appearance of a once beautiful pear orchard of some one hundred trees or more, owned and cultivated by Mr. Albert Kimball of Bradford. This orchard was set out in 1864, and has been planted to our knowledge with corn almost every year for the last ten years, and growing every year a heavy crop of that produce; but what has been the result? The trees made a fine growth during the first eight years, and after that Mr. Kimball began to lose some of his trees from the blight, and kept losing more and more every year, till this season, when the destroyer made a wholesale sweep, leaving in its march but very few of what might be called sound trees in the whole orchard. We must ascribe this to being planted with corn so long rather than to heavy manuring, though it is well known to fruit growers that trees grown in rich soils are about the only ones affected with the disease. Any kind of plants that make a hard, woody fibre, like corn, rye, &c., should not be grown around fruit trees, as such plants being fast growers take to themselves most all the woody particles in the soil at the expense of the trees. We hope to obtain the experience of others on this point, in next year's report, as it is a question that interests every fruit grower, throughout the country.

Before bringing this report to a close, we would ask permis-

Digitized by Google

sion to stray away from our subject for a moment, and call attention to those unsightly stumps, called apple trees, that line our thoroughfares, and take up much valuable room in fields and orchards. We have reference to those seen as if ready to tumble down, having hollow trunks surrounded with root suckers, white branchless limbs, and gray with age all over. Such trees, in our opinion, ought to have long since found their way to the wood pile, to make room for others more beautiful and profitable. Clear away along the stone walls, also, and burn up all the rubbish. Then may it be said of us, that we have well filled our sphere in cultivating the soil, and left it better than we found it.

John O'Brien, *Chairman*; John Preston, G. W. Gage, James A. Teel—*Committee.*

APPLES.

The more experienced and efficient members of the Apple Committee were unable to be present, making the labor of the untrained remnant severe, and the results unsatisfactory to them and probably to many of the exhibitors.

The show of apples was very fine, for the off year, especially considering the very large crop of last year. It would be interesting to know whether or not the trees, which produced the fruit shown, bore last year, and if so, the state of cultivation they were under.

There seems yet to be a question as to the possibility of changing the bearing year, and whether or not there are off-year bearing stocks which, if budded or grafted from, would continue to produce on the off-year. The general subject of apple growing, including the above, and questions as to the influence of the stock on the scion, variations in varieties, &c., might profitably be a subject for discussion at one of our society meetings, lately established. Should it be brought up, it is

Digitized by Google

hoped that every one interested will be prepared to contribute toward the settlement, if possible, of some of the still mooted points.

There were 106 exhibitors, showing 370 plates. Of the 110 varieties, the leading ones were represented as follows:—

Baldwin,	46,	Golden Russet,	3,
Hubbardston,	37,	Twenty Ounce,	3,
Roxbury Russet,	20,	" Bradford Nonsuch,"	3,
Gravenstein,	16,	King of Tompkins Co.	3,
Porter,	15,	President,	2,
Danvers Winter Sweet,	13,	Drap d'Or,	2,
R. I. Greenings,	11,	Pumpkin Sweet,	2,
Northern Spy,	10,	Tallman Sweet,	2,
Minister,	9,	Gilliflower,	2,
Fall Harvey,	6,	Ribston Pippin,	2,
Famense or Snow Apple,	5,	" Creasy,"	2,
Sweet Baldwin,	5,	Crabs,	15.
Kilham Hill,	4.		

The following premiums and gratuities were awarded:—

FIRST PREMIUMS.

Baldwin, S. B. George, Groveland, $3; Danvers Winter Sweet, Frank Perkins, Newbury, $3; Drap d'Or, S. F. Newman, Newbury, $3; Hubbardston Nonsuch, Thomas G. Ordway, West Newbury, $3; Porter, Breed & Co., Lynn, $3; Pickman's Pippin, Mrs. N. J. Warren, Marblehead, $3; Red Astrachan, J. Henry Hill, Amesbury, $3; Roxbury Russet, F. P. Todd, Rowley, $3; Rhode Island Greening, Mrs. N. J. Warren, Marblehead, $3; Sweet Baldwin, John C. Vennard, Lynn, $3; Gravenstein, J. Henry Hill, Amesbury, $3; Hunt's Russet, S. B. George, Groveland, $3.

Any other Variety.

Snow Apple, G. P. & H. E. Goss, Lynn, $1.50; Red Canada, Thomas C. Thurlow, West Newbury, $1.50; Spitzenburg, Thomas C. Thurlow, West Newbury, $1.50.

Digitized by Google

Collections of Apples.

Best collection, J. Henry Hill, Amesbury, $8.00
Second collection, Peter Waite, Danvers, $6.00.
Third collection, John W. Allen, Newbury, $4.00.

Twenty-four Specimens Apples.

Best, Gravenstein, J. Henry Hill, Amesbury, $6.00.
Second, Baldwin, T. C. Thurlow, West Newbury, Birds of New England.

Crab Apples.

Hyslop Crab, Amos K. Noyes, Lynn, $1.50.
Montreal Crab, J. Henry Hill, Amesbury, $1.50.

Collection of Crab Apples.

Z. C. Wardwell, Groveland, $5.

GRATUITIES.

Danvers Winter Sweet, C. H. Buxton, Salem, $1.
King of Tompkins Co., Daniel Plummer, Newbury, $1.
Merrimac Sweet, Alfred Green, Salisbury, $1.
Gravenstein, F. J. King, West Newbury, $1.
Gilliflower, Frank P. Todd, Rowley, $1.
Rhode Island Greening, Joseph Horton, Ipswich, $1.

E. P. RICHARDSON, *for the Committee.*

PEACHES, GRAPES AND ASSORTED FRUIT.

PEACHES.

Best White Flesh, $2, to Edmund Gale of Amesbury.
Best Yellow Flesh, $2, to J. Henry Hill of Amesbury.
Best Seedling, $2, to Susan M. Jenkins, Lynn.
Best Collection of Peaches, $3, to E. F. Webster, Haverhill.
Gratuity, 50 cents, to Sylvester Parrott of Lynn.
Gratuity, $1, to P. M. Neale, Lynn.
Gratuity, $1, to Mrs. Wm. F. Hill, Lynn.

Digitized by Google

GRAPES.

Premiums of $3 each for Best Concord, Geo. W. Gage, Methuen; Hartford Prolific, Charles E. Pecker, Lynn; Isabella, Edward Todd, Lynn; Delaware, Z. C. Wardwell, Groveland; Iona, Augustus Very, Danvers; Creveling, Augustus Very, Danvers; Clinton. W. F. Newhall, East Saugus; Diana, Samuel Porter, Lynn; Adirondac, F. Batchelder, Lynn; Eumelan, B. G. Ladd, Bradford; Rogers, No. 3, Geo. W. Gage, Methuen; Rogers, No. 15, Augustus Very, Danvers; Rogers, No. 4, Edwin Sheldon, Lynn; Salem, H. C. Whippam, Lynn; Rogers, No. 39, George W. Gage, Methuen.

Best Cold House, $6, Wm. E. Lovejoy, Lynn; 2d best, $4, J. M. Teel, Lynn.

Best Collection, $7, George W. Gage, Methuen; 2d best, Birds of New England, J. W. Ropes, Danvers.

Best Seedling, $1.50, Geo. W. Ladd, Bradford.

Best Brighton, $1.50, Timothy Jones, Peabody.

Best basket Assorted Fruit, $4, Peter Wait, Danvers; 2d best, $3, A. J. Hubbard, Peabody.

GRATUITIES.

Wm. F. Vining, Amesbury, $1; J. W. Ropes, Danvers, $1; Chas. B. Smith, Upper Swampscott, $1; Sylvester Parrott, Lynn, 50 cents; P. M. Neal, Lynn, $1.50; Mrs. Wm. F. Hill, Lynn, $1; Samuel G. Ashton, Lynn, 50 cents; Lucius Newhall, Lynn, 50 cents; John W. Blaney, Lynn, 50 cents; Aaron Low, Essex, $1; George W. Pettingill, Salem, $1.50; J. Henry Hill, Amesbury, 50 cents; P. M. Neal, Lynn, $1.50; Walter B. Allen, Lynn, $1.50; Henry G. Hawthorn, Lynn, $1.50; B. G. Ladd, Bradford, 50 cents; John O'Brien, Bradford, 50 cents; Alfred Green, Salisbury, $1; J. Henry Hill, Amesbury, 50 cents; Chas. F. Rhodes, East Saugus, 75 cents; M. S. Andrews, Jr., Essex, 50 cents; Everett M. Twiss, Peabody, 75 cents.

THOS. C. THURLOW, *Chairman.*

Digitized by Google

FLOWERS.

The Committee on Flowers report that the exhibition of plants and flowers was highly satisfactory, and the favorable comments by the numerous visitors were good evidence that this department of the exhibition was highly appreciated.

The display of pot plants from the greenhouses of John Wooldredge, Esq., of Lynn, was undoubtedly the best the society have had. To enumerate them would require more time and space than can be expected. The plants were well grown and reflected great credit on the gardener, Mr. C. M. Callahan. The collection consisted of specimens of Palms, Dracœnas, Ferns, Caladiums, and other choice plants. The handsomest pot plant came from the same place; also, the best variegated leaved plant; the first, a good specimen of Clerodendron Balfourii, a beautiful climbing plant, the flowers being white with scarlet centre; the second a very nice specimen of Cissus Discolor, a most beautiful climber, the leaves being very richly colored.

The collection of William Miller, of Swampscott, contained some nice specimens of Agaves, Begonias, and other choice plants, and although the collection was smaller than that of Mr. Wooldredge, they well merited the second prize.

The parlor and hand bouquets were very handsomely made; they were all that could be expected, the flowers were choice and the arrangement very tasty.

The Floral designs showed excellent taste in the arrangement, and either one would have been a handsome adornment for any room. The one from Mr. Halliday, which received the first prize, was unusually good and reflected great credit on the exhibitor.

The Dahlias were all good, and it is a great satisfaction to see this old flower again brought into so prominent a place among our fall flowers; they well deserve a place in every garden. The twelve Bouquet Dahlias from Mr. J. F. Marble, of Lynn, were as good as ever have been shown, and the exhibitor deserves great credit for the care he has taken in the

Digitized by Google

The Gladiolius were also unusually good; the twelve from John Wooldredge were very fine indeed. The ease with which they are cultivated make them a valuable addition to every garden, and by planting a few bulbs every week from May to July a succession of bloom may be had the whole season.

Petunias and Verbenas, there were none worthy of special mention, but we venture here a suggestion; that instead of a prize for the best twelve flowers of either, it should be for the best twenty-four bottles in bunches of three in a bottle, the prize to remain the same, $1. They are easily cultivated, and there would be no difficulty in getting that amount of bottles well filled.

Pansies, it is too late in the season to expect even a fair display.

Native flowers, the display by Miss Julia Tracey, was an unusually good one; they were very neatly arranged and all plainly and correctly named, and afforded the lover of our native flowers an opportunity seldom offered to become acquainted with the names of what are often seen, and seldom known only as wild flowers. It was a rich treat, and we think we are safe in saying, was highly appreciated, but the premium of $2 is entirely inadequate for any collection like the one just mentioned. What we say of Native Flowers will apply equally to the splendid collection of Native Fruits from Miss Susie Tracey. There were fifty varieties, and your Chairman does not remember of ever seeing that number together at any exhibition. Too little attention paid to the study of our native plants, and we trust that the exhibition of the Misses Tracey may stimulate others to take up this very interesting study. Our whole county is rich in native flowers and ferns, and what way could the spare time of our young ladies and gentlemen be better spent? Let us hope many may try it.

Zinnias, Mr. J. J. H. Gregory was the successful competitor, with twelve very nice flowers in a good variety. This is one of the best annuals and deserves a place in every garden.

Coxcombs were very fine. W. C. McFoot was the successful competitor.

Digitized by Google

Drummond Phlox, Marigolds, Sweet Peas, Candytuft, Stocks, Balsams, Nasturtiums and Antirrhinums are all useful annuals, and there were some nice varieties exhibited, but the prize of $1 for the twelve single flowers of each, is altogether too much for flowers so easily grown, and we suggest a change in offering the prizes for such flowers.

There were a few plants exhibited that were not in the collections—a very nice little specimen of the Date Palm, *Phœnix Dactilifera*, from Mrs. Lucy J. Spiller, a fine sweet-scented geranium from C. D. Clapp, a nice box of Lycopodium Denticulatum from James Teel, a very pretty fernery from Mrs. J. Cheever, and a handsome Wardian case filled in a very tasty manner by John Williams of Swampscott.

There were numerous designs and bouquets which added to the appearnace of the Hall, and although they could not all receive a premium, gratuities were awarded in every case where they could be worthily bestowed.

It is a great satisfaction to notice a growing interest in the cultivation of plants and flowers. Washington once said that Agriculture is the most healthful, the most useful and noble employment of man, and certainly Horticulture is akin to it, and whoever engages in the cultivation of flowers cannot but feel a more refining influence on their lives by so doing, and we trust that the society will offer every possible inducement to engage in the cultivation of plants and flowers, and in closing this report we would suggest the propriety of printing in the Transactions of the Society each year, a short, practical essay on the cultivation of our most popular and useful flowers, with lists of the same, so as to make them a sort of guide to those who desire to engage in so noble and elevating a project.

Premiums were awarded

For the best pair Parlor Bouquets,	$3	to S. T. Goodwin.
" " " Hand "	2	" Henry Young.
" " Floral Design,	2	" John Halliday.
" " dish Cut Flowers,	2	" Mrs. L. P. Weston.

Digitized by Google

For the best	twelve large Dahlias,	$1	to	Henry Downing.
" "	" Gladiolus,	1	"	John Wooldredge.
" "	" Petunias,	1	"	Mrs. J. H. Hill.
" "	display Pansies,	1	"	Henry Young.
" "	twelve Verbenas,	1	"	Mrs. N. E. Ladd.
" "	display Native Flowers,	2	"	Miss Julia Tracey.
" "	twelve Double Zinnias,	1	"	J. J. H. Gregory.
" "	" Coxcombs,	1	"	W. C. McFoot.
" "	display Drummond Phlox,	1	"	Mrs. M. P. Guild.
" "	twelve African Marigolds,	1	"	Clara M. Nichols.
" "	" French "	1	"	"
" "	display of Sweet Peas,	1	"	Charles Smith.
" "	varieties of Candytuft,	1	"	Clara M. Nichols.
" "	twelve pot Marigolds,	1	"	"
" "	" Bouquet Dahlias,	1	"	J. F. Marble.
" "	display of Stocks,	1	"	S. T. Goodwin.
" "	" " Balsams,	1	"	Clara M. Nichols.
" "	" " Nasturtiums,	1	"	William Stone.
" "	" " Antirrhinums,	1	"	William Stone.
" "	" mix'd Eternal Flow's,	1	"	Mrs. Plumstead.
"	handsomest Pot Plant,	1	"	John Wooldredge.
"	best Variegated Leaved Plant,	1	"	"

For the largest and best display from one individual, first premium, one copy "Birds of New England," to John Wooldredge. For the second best display, $3, to William Miller.

Gratuities were awarded to

C. H. Andrews,	for Pot Plants,	$2	00
Lucy J. Spiller,	" Date Palm,		50
C. D. Clapp,	" Geranium,		50
James Teel,	" Lycopodium Denticulatum,		50
M. J. Cheever,	" Fernery,	1	00
Miss Susie Tracey,	" 50 varieties of Native Fruits,	2	00
Mrs. J. Williams,	" Design,	1	00
Mrs. M. E. Fuller,	" " Native Flowers,	1	00
Mrs. M. Plumsted,	" "	1	00

Digitized by Google

Mrs. J. Williams,	for design,	$1 00
Mrs. M. P. Guild,	" "	1 00
Mrs. N. J. Warren,	" "	1 00
Mrs. John B. Lindsay,	" "	1 00
Miss Mary Noyes,	" Bouquet of Flowers,	1 00
Henry Young,	" Bouquet,	1 00
Mrs. M. Rich,	" "	50
Bertha F. Perkins,	" "	50
Mrs. L. Tarr,	" "	50
Mrs. J. H. Hill,	" "	50
Mrs. L. P. Weston,	" "	50
Mrs. R. Tarr,	" Flat Bouquets,	50
Mary C. Downing,	" Basket of Flowers,	1 00
Henry Downing,	" Flower Stand,	1 00
J. F. Marble,	" Collection of Dahlias,	1 00
N. J. Warren,	" Vase of Native Flowers,	1 00

Amount awarded in premiums,	$35 00
" " " gratuities,	22 50
Total amount awarded,	$57 50
Amount appropriated for premiums,	$43 00
" " " gratuities,	30 00
	$73 00
Amount awarded,	57 50
Unexpended balance,	$15 50

JOHN G. BARKER, *Chairman.*

VEGETABLES.

The Committee on Vegetables report—the whole number of exhibitors in this department of our late fair, at Lynn, was sixty-six, from about twenty-four different towns and cities, their contributions being as follows :—

Digitized by Google

Kind.	*No. Contributors.*	*Kind.*	*No. Contributors.*
Beets,	11	Oats,	2
Beans,	3	Potatoes,	18
Cucumbers,	7	Parsnips,	2
Corn,	11	Pumpkins,	2
Cabbages,	12	Peppers,	2
Cauliflower,	3	Pickled Cucumbers,	1
Carrot,	7	Radishes,	1
Cranberries,	5	Sunflowers,	2
Eggs,	1	Sage, (green)	1
Garden Seeds,	4	Sweet Marjoram (do)	1
Gourds,	1	Squashes,	24
Lettuce,	1	Tomatoes,	6
Melons,	6	Turnips,	8
Mangolds,	7	Wheat,	1
Martynias,	1.	Yams,	1
Onions,	16		

For the above, the following awards were made, viz.:

A. H. Alley, Marblehead, best Hubbard Squash, premium, $3; best Butman Squash, gratuity, $1.50.

J. W. Blodgett, East Saugus, 1st premium, $3, for best Savoy, and 2d premium, $2, for Mammoth Drumhead Cabbages.

John P. Bailey, Marblehead, gratuity, $2, for Hybrid Squash on condition that three squashes, raised from its seed, shall be exhibited at next year's fair.

H. F. Buxton, Peabody, gratuity, $1.50, for Compton Field Corn.

Nathan Bushby, Peabody, premium, $3, for best Parsnips.

M. F. Batchelder, Peabody, Premiums, $3 each, for Short Top Long Orange, and Short Horn Orange Carrot; premiums, $2 each, for Long Smooth Dark Blood Beet and for Muskmelon; 2d premiums, $2 each, for Fottler's Drumhead Cabbage and Cauliflower; and gratuity, $2, for Sweet Herbs.

W. R. Cole, North Andover, Premium, $3, for best Ruta Baga Turnips, and 2d Premium, $2, for Cranberries.

Digitized by Google

Norman S. Cole, West Boxford, 3d premium, $1, for Cranberries.

Andrew Curtis, Peabody, premium, $3, for late Sweet Corn, in milk, (Stowell's Evergreen).

A. C. Estes, Rockport, premiums, $3 each, for best Early Rose Potatoes and Fottler's Drumhead Cabbages.

Levi Emery, Lawrence, premiums, $3 each, for Turnip Beets and Red Cabbages.

Mrs. Jeremiah Fuller, Middleton, gratuity, $1.50, for very choice looking gherkins, or small pickled cucumbers, in jars.

Alfred Green, Salisbury, 2d premium, $2, for Savoy Cabbages; gratuity, $2, for exhibit of Potatoes and Onions.

J. J. H. Gregory, Marblehead, 1st premium, $8, for best collection of garden seed, 210 varieties; "Birds of New England" for best collection of Vegetables; premium, $3, for greatest variety of Tomatoes, (14 varieties); premiums, $3 each, for best Yellow and Red Flat Onions, best Nutmeg Melon ("Black Spanish"), Water Melon, Cauliflower ("Nonpareil"), and for Early Sweet Corn ("Marblehead").

S. W. Hathaway, Marblehead, 1st premium, $3, for Mammoth Cabbage; 2d premium, $2, for Stone Mason Cabbages; and gratuity, $1.50, for Yellow Danvers Onions.

E. G. Hyde, Danvers, premium, $3, for Purple Top Turnips; 2d premium, $2, for Red Cabbages; gratuities, $1 each, for Early Rose Potatoes and Short Horn Carrots.

John S. Ives, Salem, 2d premium, $6, for collection of garden seed, 198 varieties.

H. N. & A. D. Johnson, East Saugus, premium, $3, for best Field Corn; gratuity, $1, for Pearl Pop Corn.

Allen Lee, Manchester, gratuity, $1.50, for Early Rose Potatoes and Pole and Bush Beans, and $1 for Egyptian Sweet Corn.

Aaron Low, Essex, premiums, $3 each, for best Turban Squash ("Essex Hybrid"), best Round Flat Tomatoes ("Essex Smooth Round"), best dish of any other variety ("Low's New Hybrid").

Digitized by Google

Wm. Miller, Swampscott, gratuity, $1.50, for Sugar Beets.

Josiah Newhall, Lynnfield, gratuity, $1.50, for Crookneck Squashes.

Asa T. Newhall, Lynn, premiums, $3 each, for best "Marblehead" Squash and Mangold Wurtzels.

Benajah Phillips, Swampscott, gratuities, $1 each, for Yellow Globe Turnips, and for Cucumbers and Peppers, and $1.50 for Melons.

W. W. Perkins, Newbury, gratuity, $1.50, for Danvers Yellow Onions.

E. P. Richardson, Lawrence, premium, $3, for best "Ohio" Potatoes.

H. A. Stiles, Middleton, premium, $3, for best peck of cultivated Cranberries.

Benjamin P. Ware, Marblehead, premium, $3, for best Boston Marrow Squash.

David Warren, Marblehead, 1st premiums, $3 each, for Stone Mason Cabbages and Danvers Onions.

E. F. Webster, Haverhill, gratuity, $1.50, for eighteen varieties of Seed Beans.

The Vegetable department of our Fair, in point of quantity and quality, was a decided success. Your Committee makes the same complaint, however, that former committees have done, feeling justified in making it the more strongly, as the advice and suggestions of former committees, progressive in spirit, with the good of the Society only in view, have not been acted upon. What your Committee complain of is:—

1st. The scattering of the exhibit, part being on three tables in the hall and part in a tent outside. 2d. The different kinds of vegetables mixed together. 3d. Exhibits were not confined within the rules of the Society, as to the quantity and size of vegetables entered for premium.

We think three parties are to blame for it. 1st. *The Society*, by not giving notice that its exhibition hall will open for "entries" the afternoon and evening previous to the opening, thus

Digitized by Google

avoiding the rush, confusion and delay consequent upon the little time given in the forenoon of the opening day, for exhibitors to "enter" and arrange, to the best advantage, their exhibits, *where they ought to be.* The Hall Committee, under the Superintendent's direction, would have more time to look after and assist them, and the judges to make their awards, before the doors are thrown open to the impatient public. Exhibitors and committees would then have more time to devote to the transactions of the Society, outside of the exhibition hall. The Society should also provide designating cards for the position of the articles exhibited, and also provide all committees with appropriate designating badges, to be worn by each member during the continuance of the fair or while on duty. The importance of this to exhibitors and others seeking information is so great, that the expense of it would be insignificant.

2d. The *Superintendent of the Hall* should designate where each kind should be placed, by a card having the name of that kind conspicuously displayed; should not receive for entry or place *more* of each kind or variety than that for which premiums are offered, *or less*, except entered *for exhibition only*, so recorded upon the entry book, the exhibitor being so informed, and his exhibit not placed with competitors for premiums, but elsewhere, and when of special merit should receive gratuities. A suitable sub-committee should look out for and assist the exhibitors.

3d. *The Exhibitor*, before he exhibits, *should ascertain* the proper quantity and size required by the Society to compete for its premiums, *not* select five or six overgrown squashes, weighing twenty or more pounds, when three, not over ten pounds weight, are required; *not* select loose headed cabbages because they look larger, when a hard-headed, smaller one is superior; or great potatoes, scrubbed and rubbed, until they look as if made of wax, instead of grown in the earth, and as if "a good size for family use" meant large enough in size for a good family; or beets, carrots and turnips, scrubbed and shaved so close, both top and bottom, that they all become

Digitized by Google

"dead beats;" onions, with their outer skins peeled off "to make them look nice," their tops cut off so close as to make them unfit for keeping; vegetables dumped on to the table in a heap or almost hid in a deep, dirty box, instead of nicely arranging them, or in various ways making his exhibit non-conform with the rules or unattractive to the eye. The farmer ought to know by this time that the more attractive his products are arranged the better custom he has, and more from thoughtlessness than ignorance presents his products in the Fair in an unattractive form.

The above has not been written to apply so much to our late Fair as to all, for, as a whole, the exhibit was very attractive to the eye, and so generally good that many steps had to be taken by your committee between the hall and the tent, before a decision as to comparative merits could be made, and even then, with the best intentions to be just, it was almost impossible that full justice could be done when the articles in competition were not side by side.

The largest contributor to this department was the well-known seedsman, Hon. J. J. H. Gregory of Marblehead, who exhibited eighty varieties of seventeen different kinds of vegetables, and two hundred and ten varieties of seed. His collection of Tomatoes was the largest of any, and his mode of cultivating them has been fully treated in a report made by him to the Society in 1871, and copied into the State Report the same year. He has also in other reports treated vegetables and seed in his usual practical form.

The next largest exhibit was by M. F. Batchelder of Peabody, who contributed twenty-four varieties of twelve different kinds.

The potatoes exhibited by eighteen contributors were very fine, although averaging larger than "a good size for family use," many of the new varieties being among them. Mr. Emery exhibited the "Goodwin Seedling," which potato was awarded the Society's premium of $25 this year, "for the best seedling potato raised in Essex County, it having had a three

Digitized by Google

years' test." The "Burbank," another excellent potato, which should have a premium offered for it by the Society, looked well and good accounts are given of it. The potatoes shown by Alfred Green of Salisbury were enormous, and we are sorry that he did not reply to our inquiries, for, if what a bystander said was true, "that they were a fair sample of the whole crop," it must have been an extraordinary one, for twenty-three of Burbank, and twenty-two of early and late Rose filled a peck, also onions, twenty-nine to a peck. The exhibits of the "Ohio" potato by B. Frank Barnes of Boxford, and the "Beauty of Hebron" by Wallace Bates of Lynn, showed them to be very prolific.

We should judge that phosphates and other condensed fertilizers have proved the past season of great benefit to the potato crop, as well as others, from the accounts of it we have in the interesting replies to our inquiries which will be found in this report.

The display of Squashes was from twenty-four contributors, who had so many good ones as to make it no easy matter to decide which were the best. We noticed some whose large size for the variety would not commend them to an economical housekeeper or to a vegetable committee. We would advise any one planting for profit to select his seed from a medium sized squash that he has tried and found good, rather than from large ones which are generally coarse grained and watery. We also think the best time for planting to be between the 20th of June and 1st of July. Seed planted the 25th of June by our Chairman escaped the ravages of the bugs and produced about half a ton of even sized and well-ripened Turban and Hubbard Squashes, on 1500 square feet of land, manured only with two handfuls of Bradley's fertilizer to a hill, hills six feet apart (if they had been farther apart they would have done better) three plants were left in a hill.

Your committee were a little in doubt whether the premium offered by the Society "for the best American Turban Squash" meant any "Turban" found the best, or, the original type of

Digitized by Google

that variety. We were unanimous in our award to the "Essex Hybrid Squash" originated by Aaron Low of Essex, which he obtained from an accidental cross of the Hubbard and Turban. After four years' training and testing, it has proved by its uniform size, true turban shape, with the fine grain, sweet flavor and color of the "original Turban" added to the *hard shell*, dryness and long keeping qualities, of the "Hubbard," make it as your Chairman and others know by *actual test*, to be a very valuable addition to the list of varieties of this favorite vegetable.

J. P. Bailey, of Marblehead, exhibited a squash of the "Marblehead" variety, with an eighth section of it lengthways, in color and appearance of the "Hubbard" variety. In reply to inquiries, he states: "The seed was from a twenty-five pound Hubbard squash, and I can only account for the mixture in this way, viz.: that a honey bee has done the work while going from one plant or blossom to another. I could not say if there were other squashes on the same vine, from the fact of the vines being very much interwoven, but presume there were as I had a very large crop from a small piece of land. I shall plant these seed in a separate place, and use every means to prevent their getting mixed with others and will exhibit three or more squashes from the product at the next Fair."

We were surprised that more Field Corn was not exhibited, and that which was, so unripe; the only trace considered ripe enough and good enough for a premium was raised in East Saugus, and as no pop corn good enough to entitle it to a premium was exhibited, a gratuity was awarded to Messrs. Johnson for a small trace of the "Pearl" variety, said to be of excellent quality.

A peck of Oats, contributed by Mr. Appleton of the "Broadfields farm," Peabody, attracted attention, and his interesting experiments in regard to them will be found of value.

Sugar Beets, now attracting so much attention in New England for the manufacture of sugar, had some large speci-

Digitized by Google

mens shown, the best by William Miller of Swampscott, who, in reply to inquiries, gave very interesting and valuable ideas, not only in regard to them but also in the re-claiming of old swamp and sod land. If he and his employer are "not members of the County Society" they ought to be, for such men are of value in adding to the stock of information sought after by our society for its own and others' benefit.

The Cranberries exhibited were well ripened and of good size, Mr. Stiles of Middleton having far the best.

His experience in Cranberry culture, as given in this report, will be found of benefit, especially to those who, perhaps, are neglecting to utilize the most valuable part of their farm, by not turning an unprofitable swamp into a profitable cranberry plantation.

Mrs. Jeremiah Fuller, of Middleton, exhibited in six jars, some of the most perfect Gherkins, or Pickled Cucumbers, in form, size and condition, that has ever come under our observation. She states that the seed were planted the last of June; the cucumbers picked every other day. To prepare them for pickles, scald in salt and water twice, let them stand twenty-four hours each time; one cup of salt to one hundred pickles, and then scald twice in weak vinegar, after which put them in jars and fill up with strong, scalded vinegar, with a piece of alum the size of a pea, which hardens the pickles. They keep best in sealed jars.

Alphonso Mason, of North Beverly, one of our Committee and a well-known squash and melon raiser, adds the following advice: "In raising melons as well as other vegetables *I select the best and earliest for seed*, light sandy land with old barn manure as a compost, two shovelsful in a hill, six feet apart each way; cover the manure with dirt, dropping six seed in a hill, cover about three-fourths of an inch deep. The first time hoeing, leave four plants in a hill, the second time leave three. Cultivate often and keep clear of weeds. *Above all things avoid going into the vines while the dew is on, either to look at them or to work.* They begin to ripen about the first of August. The

Digitized by Google

way I select a ripe melon is by the high color and a crack around the stem. I do not pick them to ripen off the vines, as they do not have so good a flavor. I watch them very closely, as they want to be looked over twice a day, about 11 A. M. and 2 P. M., if the weather is very warm, if not, once a day will do. After a shower they ripen very fast, and will crack open if not attended to."

In regard to raising large Turban Squashes he says: "Spread six cords of stable manure to the acre and harrow it well with the wheel harrow. Hills from eight to ten feet apart, five seed in a hill. When hoed, thin out to three plants, keep them well limed to protect them from bugs, *never put it on until the dew is off*. In selecting my seed squashes I go all over the piece and put stakes down to some of the earliest and nicest looking ones, and leave them there until the squashes they mark are quite ripe."

We cannot help noticing in our report the lettuce of Martin Nies of Swampscott. It looked so fresh, green and crisp that one could hardly realize that Jack Frost had been around the week before.

Mr. Ives's display of seed, 198 varieties, attracted attention, and what he says about seed growing is information to the point.

There were several exhibits we should like to specially mention had we time and space. Information of value will be found in all the replies we have received. Read them!

Respectfully submitted for the Committee,

DAVID W. LOW, *Chairman.*

Reply of John S. Ives, of Salem, who received a premium for Collection of Seeds.

GARDEN SEED CULTURE.

One of the most important requirements to successful farming is by commencing the season with fresh seeds of reliable quality, raised from choice stock and grown with the utmost

Digitized by Google

care. It seems unaccountable that many gardeners pay so little attention to the manner of growing their vegetable seeds, as it requires so little trouble to select a few good roots of each variety in the Fall which can be set the following Spring in one row, as different species do not hybridize or mix, but different *varieties* of the same species should not be placed near each other. Manure well with well decomposed compost adding a little super-phosphate. When the Cabbages, Beets, Carrots and Parsnips commence to branch, cut off all side laterals, reserving only the centre shoots, or those starting from the centre. This produces large, superior seed, the failure of doing which is often the cause of unevenness in the seed and crop and sometimes even the failure of the entire crop. Never cut the tops with a knife from vegetables to be kept for seed stock, but remove them by hand; when setting a Cabbage for seed in the Spring a cross-cut one inch deep should be made on the extreme top of the head, which enables the tender shoot to burst from the centre of the solid head.

If our brother gardeners fail to grow the seeds they require, then purchase their supply from a *careful* dealer, who fully understands how seed should be grown. I will not say *honest* seedsmen, as I believe all seedsmen are honest *by compulsion*, for there is no business in which a man will so easily ruin his reputation and business as by selling poor seed, as one pound of worthless seed costing one dollar may ruin the salesman's trade throughout an entire county. For example, Mr. A. purchases of Mr. B. a pound of cabbage seed and sows it, waiting patiently the result. His cabbages fail to head, and in the Fall he has but few suitable for market. Now during the season, farmers call to examine and compare each other's crops. Mr. A.'s callers are informed of the worthless seed purchased of Mr. B.; the result is that Mr. B.'s seeds are condemned as not reliable. Therefore a seedsman in his right mind will never *intentionally* allow a pound of inferior seed to be sold to the injury of his character and business. Seedsmen are often asked to warrant, or guarantee their seeds to produce a crop. My answer

Digitized by Google

to such is yes, if you will guarantee the following conditions, viz.:—That the seed shall be planted at the proper time, that the weather shall be neither too hot or too cold, too wet or too dry that too much manure shall not be used, or too little, that no insect shall molest the crop and that every condition of nature shall be perfect. Crops often fail from many of these natural causes when the seedsman is censured and his seed condemned.

Reply of Francis H. Appleton, of Broadfields Farm, Peabody.

This season (1879) I harvested from 3 acres 31,424 ft. of land 169½ bushels of oats, and 8 tons, 215 pounds of straw and chaff; or at the rate of 45.55 bushels of oats and 2 tons, 89 pounds straw and chaff per acre.

In 1877 the same land had Hungarian grass, except half an acre where potatoes were planted on stable manure. The Hungarian was a thin crop grown on an old mossy pasture sod, with a fertilizer, and the potatoes were also a light crop.

In 1878 the part of the same field, where the Hungarian grew, was dressed with 18 cords stable manure, but no stable manure was put where the potatoes were; the whole was also fertilized in drill with "Stockbridge Hill & Drill Phosphate" and sown to Indian corn. The yield was 441 bushels of corn-on-cob, and 8 tons 776 pounds of stover.

Last Autumn I ploughed the fields, and early this Spring divided it into two parts for experimental purposes.

The north part, containing 1 acre, 35,827 ft., I dressed (without again plowing) with five bags "Stockbridge Oat Fertilizer," costing $22.50, and harrowed it well in; then sowed heavily, with 6 bushels of seed. I should say that besides wanting to seed heavily, I am much troubled by crows and had to allow for their depredations. The seed was bought of a grain dealer in Salem. This part has yielded 82 3-4 bushels of oats, and 4 tons, 154 pounds of straw and chaff.

The south part, containing 1 acre 39,157 ft. I dressed with 3½ bags Rectified Peruvian Guano, costing $24.50.

The treatment was the same over the whole field, and 6

Digitized by Google

bushels of seed were also sown here. This part has yielded 86 3-4 bushels of oats, and 3 tons, 1061 pounds of straw and chaff.

Since harvesting my crop of oats I plowed the field, dressed it with "Stockbridge seeding-down mixture," which was thoroughly harrowed in, and sowed to grass. Ever since Mr. Flint spoke to the Society at its meeting, in Salem, last Spring, I have taken opportunities to talk with other people, and have also read up about grass seeds, to see if I could not find some new mixture that would be adapted to my fields. I based my investigation upon the mixtures then advised by Mr. Flint. I found that the mixtures would be all he said on land that had sufficient moisture, but I do not think they would be good on land that is liable to be affected by drought. Consequently they would not do on my land.

The result was, I found that Herds Grass (Timothy), Red Top and Red Clover, with a few pounds of Alsike Clover per acre, were, in my judgment, just suited to my wants and lands.

I have, however, seeded down another piece, about one and a quarter acres, to grass with some Tall Oat Grass in the same mixture as above, as an experiment.

Since I came to the above conclusion, I was talking with a good farmer, who had been looking up the same subject, and been reading both English and American books on grasses, and it was his opinion that the selection I had made was best adapted to my land.

I will try to report on the result of my seeding with Tall Oat Grass, another season. I can now speak highly of Orchard grass, but would add that all land, sown with it, should be heavily seeded.

Knowing that your Committee are authorized to examine all seed that might be shown to you, I have reported to you as above.

Digitized by Google

Reply of William Miller Gardiner, Farmer to J. L. Little, Esq. at Swampscott, Mass.

I had about a quarter of an acre planted with sugar Beets, the production per acre would be about 40 tons, the average of each bushel 70 pounds. I have grown them for the last 5 years and had better crops each year previous to this.

I was sorry to hear my contributions to the fair were not according to the rules. An officer of your society told me it was 6 in number of each kind of vegetable. As for my being an Essex County farmer, I take the entire charge of the farm and garden for J. L. Little, Esq., of Swampscott, Mass.

Mr. Little has a farm of 100 acres, all told, in Swampscott, farmed on the modern style of farming in which we are very successful. Although neither of us is a member of your Society we were urged by Mr. Ware to exhibit, which we could have done more largely if we had thought of it sooner, and we were not posted at all in quantity required.

The land I raised the Sugar Beets on was a black muck with a clay bottom the second year from old sod land of 20 years laying sour, until drained. I planted the first week in May with stable manure and Guano, say 6 cords per acre with 1-4 ton per acre of Guano. The drills raised on account of low wet land. I have always succeeded best with raised drill system on low land. I have never failed in getting a good crop of Sugar Beets.

I have invariably succeeded best with all kinds of vegetables, except perishable seeds, to plant early, close to the sea shore as we are situated. My employer gives very liberal encouragement to farm well, for we let no weeds grow to take the nourishment away from the plants. Weeds, in my estimation, are the worst enemy a farmer has to contend with. Allow me to say in conclusion that we mowed 4½ tons to the acre on land that grew nothing but wild meadow grass before it was drained, then cropped with vegetables for two successive years, then laid down to grass before the ground froze in the end of November.

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

This book should be returned
the Library on or before the last da
stamped below.

A fine of five cents a day is incurr
by retaining it beyond the specifi
time.

Please return promptly.

Digitized by Google